

Boateng, Justice K.G Agyenim; Baah-Koranteng, Daishonin; Yen, John Linscell;
Asafo-Adjei, Emmanuel; Adam, Anokye M.

Article

Human capital planning of universities in Ghana: A comparative analysis of the University of Cape Coast and University of Education, Winneba

Cogent Business & Management

Provided in Cooperation with:

Taylor & Francis Group

Suggested Citation: Boateng, Justice K.G Agyenim; Baah-Koranteng, Daishonin; Yen, John Linscell; Asafo-Adjei, Emmanuel; Adam, Anokye M. (2023) : Human capital planning of universities in Ghana: A comparative analysis of the University of Cape Coast and University of Education, Winneba, Cogent Business & Management, ISSN 2331-1975, Taylor & Francis, Abingdon, Vol. 10, Iss. 3, pp. 1-21,
<https://doi.org/10.1080/23311975.2023.2260117>

This Version is available at:

<https://hdl.handle.net/10419/294648>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



<https://creativecommons.org/licenses/by/4.0/>

Human capital planning of universities in Ghana: A comparative analysis of the University of Cape Coast and University of Education, Winneba

Justice K.G Agyenim Boateng, Daishonin Baah-Koranteng, John Linscell Yen,
Emmanuel Asafo-Adjei & Anokye M. Adam

To cite this article: Justice K.G Agyenim Boateng, Daishonin Baah-Koranteng, John Linscell Yen, Emmanuel Asafo-Adjei & Anokye M. Adam (2023) Human capital planning of universities in Ghana: A comparative analysis of the University of Cape Coast and University of Education, Winneba, Cogent Business & Management, 10:3, 2260117, DOI: [10.1080/23311975.2023.2260117](https://doi.org/10.1080/23311975.2023.2260117)

To link to this article: <https://doi.org/10.1080/23311975.2023.2260117>



© 2023 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.



Published online: 20 Sep 2023.



Submit your article to this journal [↗](#)



Article views: 504



View related articles [↗](#)



View Crossmark data [↗](#)



Received: 17 February 2023
Accepted: 12 September 2023

*Corresponding author: Emmanuel Asafo-Adjei, Department of Finance, School of Business, University of Cape Coast, P. O. Box 12998, Adum-Kumasi, Cape Coast, Ghana
E-mail: eaadjei12998@gmail.com

Reviewing editor:
Osikhuemhe Okwilagwe, Marketing, Strategy and Innovation, Bournemouth University Faculty of Management: Bournemouth University Business School, UK

Additional information is available at the end of the article

MANAGEMENT | RESEARCH ARTICLE

Human capital planning of universities in Ghana: A comparative analysis of the University of Cape Coast and University of Education, Winneba

Justice K.G Agyenim Boateng¹, Daishonin Baah-Koranteng², John Linscell Yen³, Emmanuel Asafo-Adjei^{4,5*} and Anokye M. Adam⁴

Abstract: The study was conducted on universities in Ghana because of the challenges of the increase in talent shortfalls, reduction in their aptitude to forecast future talent needs and a surge in the risk of being overstaffed or understaffed, and the presence of an inappropriate mix of the skills they need to develop the human capital. It enjoins universities to develop effective human capital planning systems. However, it is yet known how universities in Ghana in particular plan their human capital requirements. Particularly, the status of the present human capital in universities in Ghana based on differences among universities for achieving the objectives of human capital planning has not been researched. Hence, the study investigated the status of human capital planning (HCP) at the University of Cape Coast (UCC) and the University of Education, Winneba (UEW), both in the Central Region of Ghana. A descriptive design and quantitative approach with a stratified sampling technique were employed for a sample of 138 senior members in both academic and non-academic fields for the study out of which 106 responded to a structured questionnaire. The Mann-Whitney U test was used as the estimation technique. We revealed that there are no significant differences between the two institutions as the emphasis placed on the various factors of the HCP process was similar in both institutions. We recommend that more concerted efforts should be made towards HCP in UCC and UEW to enhance productivity and institutional growth.

Subjects: Employment Relations; Human Resource Development; Organizational Studies; Management Education;

Keywords: planning; analysing; organising; directing; monitoring; university staff; senior members; test of differences

1. Introduction

In today's complex, competitive, and rapidly changing global and local work and market environments, human resources are the key assets of organisations in their bid to survive, succeed, and gain sustainable competitive advantages (Alfaware & Atan, 2021). Human resources are the most valuable assets of most organisations in modern times (Collings et al., 2021). Most organisations' competitiveness in a hyper-competitive environment is based on the competitiveness of their

human resources. There is a vast store of knowledge hidden in organisations' individual and collective human resources, the discovery and extraction of which can be leveraged as solutions in solving critical business problems (Chen et al., 2022). Human capital is the economic terminology referring to these knowledge, skills, capabilities, and creativity hidden in an organisation's people that help it create knowledge capital which is valuable in organisational success. This implies that human capital includes the education, skills, and problem-solving abilities that enable individuals to be productive in organisations.

Human capital plays critical roles in productivity and profitability of organisations in today's increasingly complex and competitive environment (Hamadamin & Atan, 2019). It has long been recognized as a significant factor influencing individual productivity (Becker, 1964) and is increasingly being recognized as a critical factor driving corporate competitiveness. It has been recognised to influence productivity and organisational performance and is believed to create far-reaching value-addition and competitive advantages to entities. The role human capital plays in helping meet business strategy and organisational outcomes by serving as a competitive advantage of organisations over their competitor makes it very crucial. According to Zula and Chermack (2008), "the importance of organisational planning and the allocation and linkage of human resources to business strategy has led to increased demand for intangible asset research, including human capital planning (HCP)" (p.7).

In today's increasingly natural resource-constrained world, human capital is increasingly being leveraged by countries to enhance productivity and performance. Human capital is a competitive tool that can help deliver productivity gains and lead to higher economic growth and development (Padi et al., 2022). Land was the main source of competitive advantage and wealth in agricultural societies. Capital and machinery were the main source of competitive advantage and wealth in industrial societies.

Currently, human resources are the main sources of competitive advantage given that we are now in a global knowledge economy. Human capital is the key contributor to economic development (Iftikar et al., 2022). Human capital that is developed is an asset in the endeavour to move a country's growth forward. Thus, in today's global knowledge economy, a nation's competitiveness is not determined by the quantity of natural resources or its accumulation of capital assets but by the quality of human capital that is shaping its development (Al Shbail et al., 2022). Without human capital, the productivity and competitiveness of nations will be hampered as other resources contribute less to productivity and growth.

Since it is being argued that national competitiveness in today's global knowledge economy depends on knowledge, many countries are moving quickly from production-based economies to knowledge-based economies (Bafarasat & Oliveira, 2021). This involves the comprehensive development of their human capital. In a globalized economy, the development of a nation's human capital is premised on the notion that the benefits of globalisation accrue to countries with specialized human capital. This explains why countries with good levels of education have been growing and developing more than those with poor levels of education. Human capital planning through education is a process of increasing a nation's human capital stock.

In a knowledge-based global economy, countries are no more relying on their capacity to produce knowledge-based goods but are depending more on their capacity to produce knowledge through research and development (R&D). Hence, most countries in the world place greater value and accord higher priority to higher education institutions (HEIs) including universities, as they are the major institutions providing human capital required for the production and distribution of knowledge for competitiveness. Human capital development is the essential business of universities. Pollock and Cornford (2004) state that:

University is thought of as a band of scholars coming together in pursuit and dissemination of knowledge, governed by a more or less collegiate model of organisation, based around a complex structure of committees and with a high degree of individual and departmental autonomy. (p.136)

Universities have the primary mandate of developing human capital through generating new ideas, teaching, research, dissemination, and application of knowledge in concert with users. They are arenas for the development of exceptional human capital, which is required for bringing new and enhanced solutions to market, including enhancing individual, company, and nation productivity and performance. However, fulfilling this mandate requires that universities themselves consistently and continuously engage in HCP.

With knowledge as the driving force in a rapidly changing global economy and with countries seeking to achieve global competitiveness, most nations consider investing in the development of human capital to be very crucial. Although, the development of human capital of a nation is a costly investment, it is believed that it delivers rich dividends in the long term. Human capital, more than physical and financial assets, is thought to contribute to the development and the growth of countries at most times. Thus, expenditure on training, health, development, and support of human resources is seen as investments, rather than expenses.

Human capital development systems need to be formulated and made effective if they are to help develop the human capital that will make developing nations competitive globally. This requires that universities in developing countries develop effective HCP systems. These will enable them to identify their human capital needs and invest in their employees to ensure they have knowledge, skills, and competencies needed for them to work effectively. A designed and executed human capital plan can be the distinguishing blueprint to help universities in creating the workforce necessary for the development of human capital needed by organisations and the country.

Empirical studies have been performed on the importance of human capital development which enjoins effective HCP in Ghana (Akrono, 2019; Anowuo, 2021; Baah-Boateng, 2013) and elsewhere (Aviso et al., 2019; Chaudhry & Roomi, 2010; Ferreira & Franco, 2020; Khasawneh, 2011; Krieg et al., 2022). None of these studies have investigated the differences in HCP among universities. Also, little is known about HCP in universities in Ghana. The status of the present human capital in universities in Ghana based on differences among universities for achieving the objectives of human capital planning has not been researched. Therefore, there is a need to research the status of HCP in universities in Ghana. This is important because although HCP has remained a topical issue in today's marketplace as well as in academia, little academic work has been conducted regarding HCP. We seek to provide answers to one main research question: what are the differences in the levels of HCP between universities in Ghana?

In Ghana, research is far behind practice as no research has been conducted on HCP among Ghanaian universities. Thus, this study seeks to fill the gap by investigating the differences in HCP between two universities in Ghana, namely, the UCC and the UEW. The interest in the two public universities is mainly because they have a common motive to train graduate professional teachers for basic and second-cycle schools, unlike other universities in Ghana. Other reasons include the familiarity of these educational environments to facilitate responsible and transparent research outcomes and the fact that the two universities play leading roles in the country's drive to produce scholars whose knowledge would be fully responsive to the realities and requirements of contemporary life in Ghana and the West African sub-region. In addition, they have a common motive to strengthen their educational and leadership sector which are all needed to facilitate effective comparison.

The unique contribution of this study to the empirical literature is the examination of the differences in HCP levels between two universities to determine the pattern of departure or

similarities in their human capital level. We find interesting outcomes to indicate that there were no significant differences between the two institutions as the emphasis placed on the various factors of the HCP process was similar in both institutions.

The study is organised as follows. The next part of this section is the literature review, followed by an outline of how the study was conducted. Then, we present the results and discuss the outcomes before drawing the conclusions and implications of the study.

2. Literature review

2.1. Theoretical underpinnings

2.1.1. Human capital theory

Human capital is a form of investment by individuals and organisations in education and training up to the point where the returns in extra income are equal to the costs of participating in education (Becker, 1964). Human capital analysis starts with the assumption that individuals decide on their education, training, medical care, and other additions to knowledge and health by weighing the benefits and costs (Sima et al., 2020; Sundram et al., 2020). Benefits include non-monetary gains along with improvement in earnings and occupations, while costs usually depend mainly on the foregone value of the time spent on these investments.

Although human capital theory has suddenly gained ascendancy in use in recent years, its roots can be traced to the field of macroeconomic development theory (Becker, 1964). In fact, the emergence of human capital thought can be traced to Adam Smith's seminal book, *The Wealth of Nations*, published in 1776. This fundamental work laid the groundwork on which other works built on. In this significant piece of work, Adam Smith laid that the foundational thoughts were later formulated and expanded into the science and theory of human capital. Since then, human capital theory is regarded as a foremost theoretical basis underpinning human resource development (HRD).

Human capital is a product of considered investments and it generates income (Habib et al., 2019; Kryscynski et al., 2021). Organizations derive economic benefit from investments in people (Mayer, 2021; Vale et al., 2022). People invest in themselves, through accumulation of human capital goods like education and productive knowledge to constitute stocks of human capital with the potential of increasing their market and non-market productivity. Human capital theory posits that organisations should protect core competencies through investment in training and development assuming that people expect to receive compensation for their investments in human capital (Becker, 1964; Islam & Amin, 2021). The value of employees to the organisation is related to the uniqueness and value of their capabilities and skills (Alblooshi et al., 2021; Cetindamar Kozanoglu & Abedin, 2021).

Definitions of human capital reveal important themes and issues such as investment in acquired education, on-the-job training, and development which have a positive impact on productivity and wages (Hutahayan, 2020). There are numerous methods to improve human capital, which range from formal education to on-the-job learning (Abraham & Mallatt, 2022; Zhou et al., 2019). Thus, human capital theory can be used to explain investments in schooling, firm-provided training, vocational and technical education, and the benefits of informal on-the-job learning.

2.1.2. The screening theory

Individuals may enhance their productivity through education and training initiatives at schools and then in the form of on-the-job training as defined by human capital theory. Though potential productivity increase through schooling, it is, however, not observed by employers at the time when individuals first entered the labour market. This is because the cost of defining and verifying employees' performance by organisations is perceived to be prohibitively high (Kryscynski et al.,

2021; Miao et al., 2020). The perceived high cost of verification by organisations together with other shortfalls in the human capital theory has induced quite a few challenges that were not addressed by human capital theory.

The first challenge is that human capital theory was rooted in neoclassical economics and one of the neoclassical assumptions underpinning the human capital theory assumes that markets are in perfect competition with free entry and exit, and that information is perfect and access to it does not involve any cost. The reality is that all markets are in imperfect competition and the information is asymmetric (Archer et al., 2022; Boateng et al., 2022; Nkrumah-Boadu et al., 2022; Obeng et al., 2022) such that economic agents often incur cost to access information regarding the labour market (Bradley et al., 2021; Graham et al., 2019). Because of these conditions, the proponents of the screening theory are of the view that the human capital theory did not address the question of how private information about potential employees' productivity acquired through training and education be transmitted to potential hiring organisations so that the right people can be selected for the organisations.

Secondly, the human capital theory does not address the issue of whether a person would be more productive if he or she stayed in school longer. If so, how would one explain a slower learner who took more years to complete an education degree with higher investment and opportunity cost? Would this person be more productive, given the investment and cost made?

The third challenge is that there has not been any education or training production function that can be possibly specified in economic theory. Therefore, the productivity of learning is only theoretical at best. Human capital theory was derived mostly based on observed quantitative correlations between education levels and lifetime earnings profiles of individuals. Essentially, it treated the learning process as a black box and hypothesized that education and training could increase one's future productivity (Zuboff, 2022).

The above challenges combined caused a problem for organisations operating in the real world with incomplete competition and information asymmetry, especially when they need to identify the right employees in the labour market. How do they know certain people will be productive and fit into their organisational goals once hired? These challenges among others constituted a research base for an alternative theory to be developed.

The screening theory is embedded in the ideals of the institutional school by Arrow (1973) and was developed as an alternative to human capital theory. The proponents argued that due to the nature of the market and its information imperfection, a better and heuristically superior explanation must be geared to theories that can contain the unique institutional characteristics of the labour market. In the view of Sobel (1982) schooling may have the same apparent effect on earnings, either because the productivity linkage is a valid one or because it is the instrument through which the effect of some other background variables is transmitted or because it masks an intervening variable other than productivity. The latter argument provides the underlying basis for the screening theory.

Arrow (1973) formalized the hypothesis that education served as a credentialing process that signalled high innate productivity to organisations. From the organisational perspective, the screening theory considers hiring as investment under uncertainty. Among other information asymmetries, employers are not sure of the productive capabilities of a potential employee at the time of hiring. Nor will this information become available immediately after hiring. The individual may take time to learn on-the-job if specific training is required often. This implies that hiring is an investment decision under uncertainty.

To formalize the screening theory, Arrow (1973) proposed some extreme assumptions. Arrow proposed that higher education contributes in no way to superior economic performance; it

increases neither cognition nor socialization. Rather, higher education serves as a screening device, in that it sorts out individuals of differing abilities, thereby conveying information to the purchasers of labour. The theory considers the filtering role played by education to be a productivity adding role that conveys much-needed information by the economic agents in the markets. The simple reason is that productivity and ability of a potential employee is not publicly observable.

In screening models, education is assumed to act as a filter. In that, one's successful completion of education signals higher levels of innate ability. Nevertheless, screening theory is often contrasted with human capital theory with respect to education and training-related investments. For potential employees, they use education to "signal" their productivity to employers. For employers, they "screen" and "filter" out potential employees with a minimum level of training and education credentials.

2.2. Empirical review

Anowuo (2021) examined the relationship between human capital and resources from the perspective of denominational institutions in Ghana. A sample of respondents were selected purposively who responded to a structured questionnaire. The study revealed a positive association between human capital and resources. Moreover, it was found that components of human capital such as education, training, and succession planning were significant predictors of resources.

In a study of small- and medium-sized tourism ventures in Ghana, Saffu et al. (2008) investigated the contributions of human capital to tourism in Ghana. Data were analysed using descriptive statistics such as such percentages, chi-square, and inferential statistics such as correlation. The results of the study revealed that indeed there was a positive significant association between entrepreneur's education, experience, and performance.

In a study of the Pakistani textile sector, Chaudhry and Roomi (2010) investigated the development of human capital in companies. The study was exploratory in nature because it was the first of its kind in the Pakistani manufacturing sector. The research study was done utilizing a self-administered postal questionnaire, and the data sample comprises 30 notable textile enterprises in Pakistan. The findings revealed a link amid investment in human capital planning and the benefits that organizations might derive from such efforts. It was also discovered that companies that spend in training and development programs had higher staff productivity, which leads to higher organizational performance.

Khasawneh (2011) investigated HCP at higher education institutions as a strategic human capital planning initiative in Jordan. A questionnaire created by Zula and Chermack (2008) was used to collect data. Descriptive statistics like means and standard deviations, as well as inferential statistics like the t-test and analysis of variance, were used to investigate the data (ANOVA). According to the findings, there are no significant variations in judging the state of HCP based on participant gender or university affiliation. However, only on the planning and monitoring dimensions were substantial variations found based on the type of post in favour of department chairmen.

Few studies have also investigated human capital planning, specifically in Ghanaian universities (Akrono, 2019; Baah-Boateng, 2013). For instance, Baah-Boateng (2013) investigated the need for human capital planning for economic transformation in Africa. Education was found to be a dominant factor required to facilitate economic transformation. The study recommended that there should be operative association between educational institutions to take up measures to minimise brain drain which hinders the host nation's human capital planning base.

In addition, Akrono (2019) examined the allocation of human capital strategies in a number of Ghanaian universities. Data was collected with the aid of an interview guide and documentary analysis. It was found that support from top management and resource allocation depict a direct

relationship with human capital planning strategy allocation. The study advocated that public universities must diversify their mode of income generation to resource the allocation of their human capital planning. This was because of funding inadequacies that were prevalent among the selected universities.

A critical examination of the above studies provides that human capital is prevalent in corporate bodies with less emphasis on universities, especially in Ghana. In addition, few or no studies in Ghana have investigated the HCP requirements of Ghanaian universities. This is to say, it is yet known how universities in Ghana in particular plan their human capital requirements. More investigations are therefore needed to probe into the Ghanaian universities' HCP requirements. The performance of HCP as well as the differences between them is pertinent to facilitate sound and more concerted efforts towards the ushering of good HCP policies among universities in Ghana.

3. Materials and methods

3.1. Research design and approach

The study employed the descriptive research design and quantitative research approach. The adopted design and approach are appropriate because the study seeks to objectively assess differences in the level of HCP between two universities.

3.2. Population and sample analysis

The population of the study comprises all senior members who are in administrative positions at UCC and UEW. The Universities of Cape Coast (UCC) and Education, Winneba (UEW), stand out among other universities in Ghana, due to their joint goal of developing graduate professional teachers for basic, secondary schools and teacher training schools. One distinguishing feature that makes them stand out is their shared emphasis on teacher education. The preparation of educators with the information, abilities, and competencies required to succeed in their teaching professions is a priority at both universities. With a focus on pedagogy, classroom management, and subject-specific instruction, the curricula at UCC and UEW are specifically created to educate teachers about the needs and challenges of the education sector.

Future teachers can take advantage of specialized courses, and over 36 education programs offered by each university with UEW having the greatest number of education programmes in Ghana. In addition to other crucial elements of successful teaching, these programs explore educational theories, instructional practices, evaluation techniques, and educational psychology. The professors at both universities frequently have doctorates in education, and they contribute a wealth of expertise and knowledge to teacher preparation. This knowledge guarantees that aspiring teachers receive high-quality instruction and mentoring, so they can succeed in their field.

The teacher preparation programs at UCC and UEW include practicum and teaching practice as essential elements. Through teaching practice and field placements, colleges offer numerous possibilities for teacher candidates to obtain hands-on experience in authentic classroom situations. Under the direction of seasoned educators, these experiences allow aspiring teachers to put their theoretical knowledge into practice and hone their teaching skills. To guarantee that its teacher candidates receive practical instruction and mentoring, UCC and UEW work closely with over 40 senior high schools and about 30 Primary schools in the Central Region and several other schools in other regions in Ghana.

There are several advantages to UCC and UEW's geographic position in Ghana's Central Region. By putting basic and secondary schools in the area closer by, it makes it easier for universities and the neighbourhood educational system to interact and collaborate. Universities are adept at organizing teaching practice placements and cooperating with educational institutions on outreach and research projects. The institutions' connections to the neighbourhood's educational

ecosystem are strengthened by their proximity to the region about 92 km apart, which also helps the Central Region's educational system grow and flourish.

Additionally, UCC and UEW significantly contribute to addressing the Central Region's need for competent teachers. They directly affect the level of education in the area and beyond. UCC and UEW improve Ghana's overall educational system and the Central Region's educational growth by generating trained graduate professional teachers. They have a special regional effect and recognition because of their dedication to teacher education and their location in the Central Region. Each university graduates over 10,000 teachers every year relative to other universities.

These and many more factors are considered to enhance the effective comparison of outcomes. Other reasons could be that the universities play leading roles in the country's drive to produce scholars whose knowledge would be fully responsive to the realities and requirements of contemporary life in Ghana and the West African sub-region. In addition, the interest in the two universities hinges on the fact of familiarity with these educational environments to facilitate responsible and transparent research outcomes. As provided by prior literature on primary studies, the researcher needs to be familiar with the environment within which the research is conducted to improve the outcome of the study.

Hence, selecting the two public universities with a common motive to strengthen their educational and leadership sectors provides an ideal basis for effective comparison. The similarities in objectives, academic programs, and institutional frameworks allow for meaningful analysis and evaluation of their approaches, practices, and outcomes. This comparison can shed light on areas of success, challenges, best practices, and areas for improvement, benefiting not only the universities involved but also policy-makers, educators, and researchers interested in educational and leadership development.

The category of staff consists of both teaching staff (the Deans of Faculties/Schools, Directors of Centres, Institutes and Heads of Departments) and non-teaching staff (Junior and Assistant Registrars, Senior Assistant Registrars and Deputy Registrars). The Vice-Deans were not included because almost all of them were heads of departments. The justification for selecting these participants was due to their involvement in HCP in the various faculties, departments, institutes, centres, sections, and units that together make up the overall university management team. The population size of the study was 215. The distribution of the population and sample for the study for each university is shown in Table 1.

A confidence level of 95%, margin of error of 5% was used based on the Krejcie and Morgan (1970) sample size determination table. Many academics are of the notion that the larger the sample size, the less likely it is that sampling errors will arise. From the above discourse, with a population size of 215, the minimum sample size which is 138 was considered appropriate for the study.

Having determined the sample size for the study, the stratified sampling technique was employed. The population was then grouped into two main groups, namely, the teaching and non-teaching groups. The stratification was utilized because it ensured that the sample was representative of the qualities that were used to create the strata. It also results in a smaller standard error or variability, which reduces the standard error. Table 1 shows the distribution of the population and sample of the study.

3.3. Data collection and pilot testing

A structured questionnaire was used because it allows for unbiased data because respondents' responses are delivered with little intervention from the researcher. To collect data, the researchers used the HCP (HCP) instrument developed by Zula (2007) and later published by Zula and Chermack (2008). HCP entails human resource recruitment, selection, allocation, and retention, all of which are tied to the organization's plans, goals, and objectives (Zula, 2007). The instrument was broken down into two sections. The first section of the instrument collected data on respondents' demographic factors, such as gender, age, job title, and duration of service at the institution.

Table 1. Sample distribution from the population categories

Position/rank	Institution							
	UEW			UCC				
	Teaching		Non-teaching	Teaching		Non-teaching		
N	S	N	S	N	S	N	S	
Deans/Directors	12	8			18	11		
Heads of Departments	44	28			40	26		
Assist.Registrars			27	17			33	21
Senior Assist. Registrars			14	9			11	7
Deputy Registrars			7	5			9	6
Sub-Total	56	36	48	31	58	37	53	34
Grand Total								138

Note: N and S denotes population size and sample size, respectively.

The HCP instrument by Zula (2007) was included in the second half of the instrument. Zula (2007) created the first instrument based on a review of related literature and consultation with a panel of subject matter experts (SMEs). The individual items under each of the phases of the instrument were developed based on the six factors in the model by Zula (2007).

In summary, the SME panel utilized in the instrument design and creation resulted in five dimensions and 38 items for human capital planning. These dimensions and items created the survey which was used in the pilot study to determine initial validity and reliability. Thirty-eight items were distributed over the five dimensions as follows: planning (15 items), analysing (8 items), organizing (4 items), directing (5 items), and monitoring (6 items). Having adapted the data collection instrument, there was the need to delete some of the items under the planning phase and change the wording of some of the items without changing their meaning. This resulted in reducing the number of items from 38 to 34. Figure 1 shows the distribution of the items under the various phases of human capital planning based on the model by Zula (2007).

Responses to the scale were measured on a 5-point summated rating scale where 5 indicates strong agreement and 1 indicates weak agreement. The field work helped the researcher to establish the context of the responses. One challenge the researcher faced on the field was getting the respondents to fill the questionnaires on time. Initially, respondents were reluctant to answer them. However, after persistent appeals, some answered and returned them. The response rate for the study was approximately 77% (see Table 2). The return rate was high.

According to Zula and Chermack (2008), the adopted questionnaire was pilot tested with 100 participants and sample of 49 human resource management and development professionals which yielded an overall reliability coefficient of 0.91 and 0.94, respectively, when it was first designed. However, to ensure the reliability of the results of the study and also due to the change of the environment, the questionnaire was pilot tested at the University of Development Studies (UDS) in the Northern Region of Ghana before the main data collection. Saunders et al. (2019) are of view that for pilot-testing, a minimum sample size of ten respondents is justifiable. Therefore, 20 respondents were randomly selected for the pilot testing.

The Cronbach's alpha coefficient, which is a measure of internal consistency, was used to ascertain the reliability of the data. The standards used to judge the quality of the scales are as follows: 0.80–1.00, exemplary reliability; 0.70–0.79, extensive reliability; 0.60–0.69, moderate reliability; and 0.60, minimal reliability. Recent studies such as Amoako et al. (2023), Asafo-Adjei et al. (2023), Bossman and Agyei (2022), Ekolu and Quainoo (2019), Hamidu et al. (2023), Hamidu, Issau et al. (2023), Tzivinikou et al. (2021) have also indicated that Cronbach's alpha coefficient of 0.60 and 0.70 or more, respectively, are reliable. The Cronbach's alpha coefficients are summarised in Table 3 and considered to be ideal.

3.4. Estimation technique

To address the research questions, the data was filtered to remove any irrelevant responses to be made ready for coding. After coding, responses from the questionnaire were entered and analysed using Predictive Analytics Software (PASW). In the analysis, the Mann–Whitney U Test was utilised to assess differences in the level of HCP between the two universities.

4. Results and discussion

The Mann–Whitney U Test was used to test the difference between the Universities regarding the status of HCP. The discussions include interpretation of findings in reference to theories and findings of previous studies which serve as evidence to confirm or refute the results of the present study.

Figure 1. The distribution of items based on the model proposed by Zula (2007).

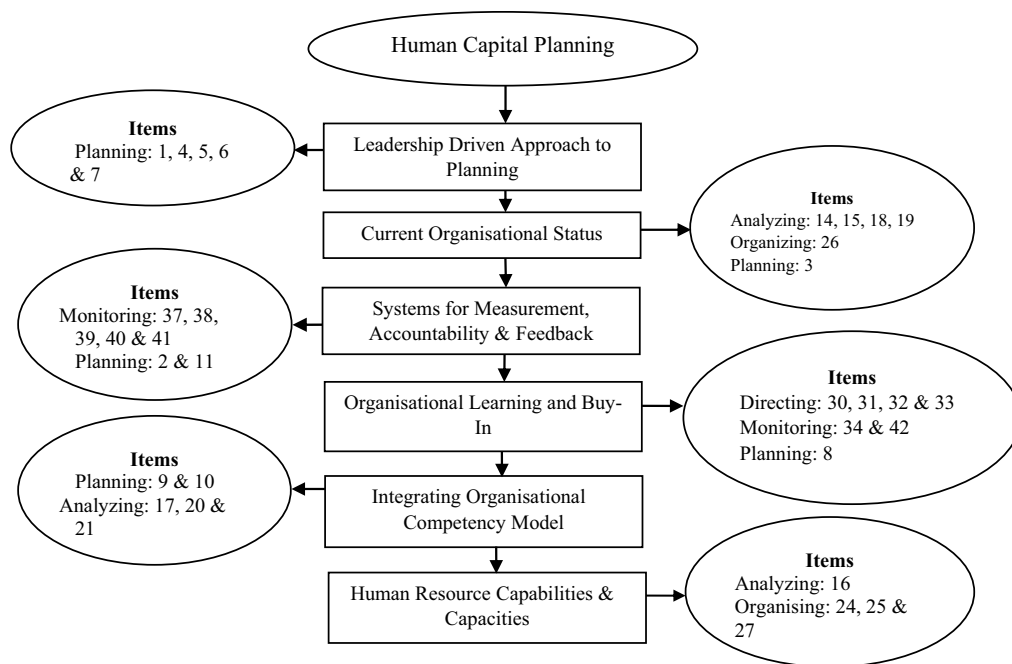


Table 2. Response rate of data collection exercise

Category of staff	Institution			
	UEW		UCC	
	No.	Response rate	No.	Response rate
Teaching Staff	36	30(83%)	37	31(84%)
Non -Teaching Staff	31	21(68%)	34	24(71%)
Overall	67	51(76%)	71	55(77%)

4.1. Demographic characteristics of respondents

The first section of the questionnaire helped to obtain demographic information about the respondents. This information includes sex of respondents, category of staff, position or rank, length of experience, and age of respondents. The demographic characteristics gave an overview of the study population from which the sample was drawn. This helped bring context and understanding to the responses given. Table 4 shows the gender and category of staff in the sample.

It can be seen from Table 4 that of the 106 respondents sampled, approximately 52% were from the UCC, while 48% were from the UEW. Of the 55 respondents from UCC, the majority were males

Table 3. Reliability coefficients for the pilot testing of the instrument

Sections	No. of items	Sample size	Cronbach alpha
Planning	11	10	0.907
Analysing	8	10	0.734
Organising	4	10	0.951
Directing	5	10	0.744
Monitoring	6	10	0.906

Table 4. Gender and category of staff of respondents

Demographics	Response	UCC (N=55)		UEW (N=51)	
		Freq	Percent	Freq	Percent
Gender	Male	42	76.4	41	80.4
	Female	13	23.6	10	19.4
Category of Staff	Teaching	31	56.4	30	58.8
	Non-Teaching	24	43.6	21	41.8

(76.4%). Also, of the 51 respondents from UEW, the majority were males (80.4%). This indicates that the teaching and administrative staff of both universities are male-dominated. It means that fewer females work as staff in these Universities and are an indication of the gender gap in Ghana’s universities.

In both universities, there are two main categories of staff: (i) faculty, staff who are into teaching roles and (ii) administrative staff, those in non-teaching roles. The results in Table 6 show the majority of respondents are into teaching, 56% in UCC, and 59% in UEW than in non-teaching positions. Since universities are teaching and research institutions, it is not surprising that the majority of the staff of UCC and UEW sampled for this present study are into teaching. The results show that in each university, the non-teaching members constitute less than 45% of the staff. The data were disaggregated, and chi-square analysis was used to examine the category of staff with respect to gender as shown in Table 5.

From Table 5, the results indicate that there is a significant relationship ($\chi^2 (1, N = 106) = 17.35$, p-value <1%), between gender and category of staff in both universities. It can be observed from Table 8 that about 69% of males were staff in the teaching category while about 31% were staff in the non-teaching category. For the female category, only four of them representing 17% were staff in the teaching category, while approximately 83% were staff in the non-teaching category. This result suggests that the proportion of males in the teaching category differ to a large extent from the proportion of females in the same category.

4.2. Results

The research objective examined the differences in the HCP in UCC and UEW. The two Universities have some high degree of similarities regarding playing leading roles in the country’s drive to produce scholars whose knowledge would be fully responsive to the realities and requirement of contemporary life in today’s economy. Also, they have a common motive to strengthen their educational and leadership sector. However, due to differences in academic environment, the diverse nature of HCP and on the account of the descriptive status of HCP in both universities as revealed previously, it is expected that some levels of similarities and differences are ensued from the findings of this study.

Due to the small sample size of the study, the Mann-Whitney U test, a nonparametric test, was used to answer this objective. In presenting the result for this objective, the mean ranks and the actual test statistics were utilized with respect to the factors of HCP. The results on each of the factors are subsequently presented.

4.2.1. Differences in leadership-driven approach to planning in UCC and UEW

The first aspect of the HCP has to do with the leadership-driven approach to planning in the two universities as displayed in Table 6. To assess the differences with respect to this factor based on institutions, Mann-Whitney U Test was conducted to ascertain the differences.

Table 5. Cross tabulation of gender and category of staff in the university

Gender		Category of staff		Total
		Staff (teaching)	Staff (non-teaching)	
Male	Count	57	26	83
	% within Gender	68.7%	31.3%	100.0%
	% within Category of Staff	93.4%	57.8%	78.3%
Female	Count	4	19	23
	% within Gender	17.4%	82.6%	100.0%
	% within Category of Staff	6.6%	42.2%	21.7%
Total	Count	61	45	106
	% within Gender	57.5%	42.5%	100.0%
	% within Category of Staff	100.0%	100.0%	100.0%
	% of Total	57.5%	42.5%	100.0%

The results of the Mann–Whitney U test showed statistically insignificant difference between UCC and UEW with respect to all the items used to assess the factor and also the overall index of the factor ($U = 1328.50$, $N_1 = 55$, $N_2 = 51$, $p > 0.05$). The results suggest that emphasis is placed on each of the items. However, the overall index did not differ among the institutions. The results are shown in Table 6.

4.2.2. Differences in assessing current organisational status in UCC and UEW

The second factor of the HCP model concerned assessments of the organisational status of the universities from Table 7. Consequently, seven items were used.

The test results showed that there is statistical difference with respect to the issue of the university analyzing and documenting the caliber of human and non-human requirement needed at the operational level of HCP ($U = 1112.00$, $N_1 = 55$, $N_2 = 51$, $p = 0.05$). The result suggests that the degree of emphasis by UEW was higher than that of UCC. However, the overall index of the factor did not differ significantly ($U = 1220.50$, $N_1 = 55$, $N_2 = 51$, $p = 0.25$). The results suggest that the views of the respondents in two institutions in the study were similar, see Table 7.

4.2.3. Differences in systems for measurement, accountability, and feedback

The study also examined the systems for measurement, accountability, and feedback in the two universities from Table 8. It was observed that respondents in both institutions ranked the various items used differently.

The Mann–Whitney U Test showed that all the seven items used did not show any statistical difference among the respondents in both institutions ($U = 1222.50$, $N_1 = 55$, $N_2 = 51$, $p = 0.25$). The result suggests that respondents have similar views of all the items used in the study from Table 8.

4.2.4. Differences in organisational learning and buy-in in UCC and UEW

The fourth factor of the HCP model which has to do with the assessment of organisational learning and buy-in in both universities was examined. Six items were subsequently employed as shown in Table 9.

The Mann–Whitney U Test conducted revealed that there was a significant difference between respondents in UCC and UEW regarding the issue that the university ensures that the learning

Table 6. Mann–Whitney Test for leadership-driven approach to planning by the institutions

Leadership-driven approach to planning	Test statistic		
	U statistic	Z	P-value
The university's leadership and employees are versed in HCP process.	1356.00	-0.37	0.71
The university has established clear goals and objectives to guide HCP effort	1382.50	-0.13	0.90
The university has been able to garner external support for HCP.	1371.50	-0.20	0.84
The university has made a clear case for the implementation of HCP, including clarifying the benefit of human capital plan to the university	1338.00	-0.43	0.67
The university has assessed management as well as employee capacity to carry through human capital plan.	1182.50	-1.44	0.15
Overall	1328.50	-0.47	0.64

strategies of the organisation are linked to the behavioural level of the competency models and performance ($U = 1052.50$, $N_1 = 55$, $N_2 = 51$, $p = 0.02$). The rest of the variables did not show any statistical significance including the overall indicator. The result is shown in Table 9.

4.2.5. Differences in assessment of integration of organisational competency

The fifth factor of the HCP model which has to do with the assessment of integration of organisational competency in both universities is examined in Table 10.

The result of the Mann–Whitney U Test in Table 10 depicts statistically significant difference between UCC and UEW with respect to the following variables of the integration of organisational competency factor: the university always ensures that its performance management system is integrated with the competency models or job description ($U = 1053.0$, $N_1 = 55$, $N_2 = 51$, $p = 0.02$), and also, the university has established methods to assess employees' current competences against the requirements for future competency at a higher level of responsibility ($U = 1055.10$, $N_1 = 55$, $N_2 = 51$, $p = 0.04$). The result suggests that UEW places emphasis on the two indicators above than UCC. However, the overall indicator did not show statistically significant difference between UCC and UEW. The result is depicted in Table 10.

4.3. Discussion

Generally, the study did not find significant differences between HCP in both universities, except for a few individual items. This signifies that the two universities uphold the requirements of HCP similarly. As a result, any policy interventions to be instituted by individual universities on grounds of HCP can be interdependent from the perspective of both universities. That is, both universities can learn from each other's policies as a reference point for future HCP requirements despite their peculiar needs. Findings from this study can also give insights into other related educational institutions for decision-making on HCP. The importance of human capital development which enjoins effective HCP is supported by other related studies conducted in Ghana (Akrono, 2019;

Table 7. Mann–Whitney Test for Current organisational status by the institutions

Current organisational status	Test statistic		
	U statistic	Z	P-value
Existing sources of relevant job and worker data have been discovered by the institution.	1380.00	-0.15	0.88
The institution makes every effort to make its present strategies and strategic plan obvious.	1309.50	-0.62	0.53
At the operational level of HCP, the university carefully examines and documents the caliber of human (talent and capacity) and non-human (systems) requirements.	1112.00	-1.94	0.05
Internal competency to design and administer training and development programs is always assessed by the University.	1291.50	-0.73	0.46
The university constantly evaluates the external labour market in order to find talent to match the organization's goals.	1167.50	-1.55	0.12
Human resources (personnel) are adjusted and procured by the institution to meet the operational and tactical requirements of its organizational strategy.	1288.50	-0.75	0.45
Overall	1220.50	-1.16	0.25

Anowuo, 2021; Baah-Boateng, 2013) and elsewhere (Aviso et al., 2019; Chaudhry & Roomi, 2010; Ferreira & Franco, 2020; Khasawneh, 2011; Krieg et al., 2022).

We discussed issues in accordance with the human capital theory, such as investments in education, on-the-job training, and development, which have a beneficial effect on productivity. In this way, investments in education, company-provided training, vocational and technical education, and the advantages of informal on-the-job learning may all be explained by the concept of human capital (Malik & Nicholson, 2020; Xia et al., 2022; Zhou et al., 2019). Institutions that focus on the development of human capital through education, as a result, have similar perceptions of the requirements for human capital planning, such as a leadership-driven approach to planning, the state of the organisation today, systems for measurement, accountability, and feedback, organisational learning and buy-in, and integration of organisational competency.

The prominence of a leadership-driven approach to HCP in the assessed institutions suggests that strong leadership and commitment to human capital development are important. This outcome implies that universities in Ghana, as well as other institutions in the West African and African context, should place emphasis on effective leadership and provide support and resources to leaders to drive HCP initiatives. Also, the assessment of organisational status as a factor of HCP

Table 8. Mann–Whitney Test for systems for measurement, accountability, and feedback by the institutions

Systems for measurement, accountability, and feedback	Test statistic		
	U statistic	Z	P-value
The university has established standards (talent and performance) with similar institutions in the country.	1343.00	-0.39	0.70
The university assesses existing and desired performance in terms of recruitment, hiring, and retention.	1140.50	-1.73	0.08
At various phases of implementing the initiatives, the university establishes crucial performance measures.	1258.00	-0.95	0.34
The university has established and implemented a procedure for monitoring and measuring the action's intended and unforeseen outcomes, as well as providing ongoing feedback.	1339.00	-0.43	0.67
The institution has set up a measurement system to track individual employee success and to find talent when it is needed.	1200.00	-1.33	0.18
The university has established methods for tracking and evaluating the results of the human capital effort, as well as comparing them on a regular and systematic basis to the organization's measurable goals and objectives.	1122.50	-1.83	0.07
The institution has a policy in place to reward and promote personnel who contribute to the organization's productivity and success.	1300.00	-0.67	0.51
Overall	1222.50	-1.14	0.25

highlights the importance of comprehending the present state of HCP within universities. Broader Ghanaian universities can benefit from conducting similar assessments to detect areas of strength and areas that require enhancement. This practice can be widened to universities in other West African and African countries, enabling a more comprehensive understanding of the human capital landscape. Moreover, the evaluation's emphasis on assessing systems for measurement, accountability, and feedback indicates the position of establishing robust mechanisms to monitor and

Table 9. Mann–Whitney Test for organisational learning and buy-in by the institutions

Organisational learning and buy-in	Test statistic		
	U statistic	Z	P-value
The university has a developed and supported HRD/training and development system for human capital.	1154.00	-1.63	0.10
Leaders initiate and promote the notion of a learning organisation paradigm as a strategy to get employee buy-in and ownership in the HCP process.	1342.50	-0.40	0.69
The university ensures that the learning strategies of the organisation are linked to the behavioral level of the competency models and performance	1052.50	-2.35	0.02
The university has established organisational learning practices that encourage employees to engage in lifelong learning and contribute to organisational strategies	1318.50	-0.55	0.58
The university has a clear policy to reward employees who take additional training and education programmes for their curiosity and interest in learning	1393.50	-0.06	0.95
The university has established an annual report, which includes the knowledge assets that the organisation is endowed with.	1398.50	-0.03	0.98
Overall	1316.00	-0.55	0.58

evaluate the effectiveness of HCP. Ghanaian universities, as well as other universities in the region, can develop and implement systems that identify ongoing measurement, accountability, and feedback to enhance their human capital planning efforts.

Again, the assessment of organisational learning and buy-in as a factor of HCP implies that fostering a culture of continuous learning and obtaining buy-in from stakeholders is important. Ghanaian universities and other institutions in the region can enhance a culture of learning by encouraging professional development opportunities, knowledge sharing, and collaboration among faculty and staff. To end with, the evaluation of the integration of organisational competency suggests that universities should associate their human capital development efforts with the specific competencies needed to achieve their strategic goals. Ghanaian universities and other institutions in the West African and African context can focus on recognising the chief competencies needed and integrating them into their HCP strategies, including recruitment, training, and performance evaluation processes.

Table 10. Mann–Whitney Test for integration of organisational competency model by the institutions

Integration of organisational competency model	Test statistic		
	U statistic	Z	P-value
The university has developed current competency models for all prospective employees/groups targeted.	1181.00	-1.46	0.15
The university always updates and ensures accuracy of all job descriptions	1135.50	-1.75	0.08
The university always creates future-oriented competency models that are aligned with its strategic plan to realize and implement its strategies in the future.	1219.50	-1.22	0.22
The university has always established methods to assess employees' current competencies against the requirements for future competencies at a higher level of responsibility.	1085.00	-2.10	0.04
The university always ensures that the organisation's performance management system is integrated with the competency models and/ or job descriptions	1053.00	-2.32	0.02
Overall	1133.50	-1.71	0.08

As proposed by Arrow (1973) that higher education serves as a screening device, in that it sorts out individuals of differing abilities, thereby conveying information to the purchasers of labour. According to the theory, education's filtering function boosts productivity by providing economic agents with crucial knowledge. The straightforward explanation is that a potential employee's productivity and aptitude cannot be seen in the open. Yet, organisations can readily and for free access credentials, degrees, and other similar information. This is important in academic settings where staff members hold academic advancement in high regard. Education is supposed to operate as a filter that in this situation influences to some extent a comparable responsiveness to human capital planning challenges since one's successful completion of education signals higher levels of innate ability.

5. Conclusion and implications

The study investigated HCP in UCC and UEW. To accomplish this purpose, a comparative evaluation of HCP in the UCC and UEW was performed. The Mann–Whitney U Test was employed to execute the research objective. The comparative evaluation of the HCP in both institutions revealed no significant difference in terms of the emphasis on the various factors of HCP in both institutions. This outcome implies that universities in Ghana and similar other institutions in the West African and African context do not exhibit significant distinction concerning factors such as leadership-driven approach to planning; assessments of the organisational status, assessment of systems for

measurement, accountability, and feedback, assessment of organisational learning and buy-in, and assessment of integration of organisational competency, and are in response to the human capital and screening theories in educational environments.

The study finds implications for practice at broader Ghanaian universities, the West African region, and Africa are implied by the evaluation of HCP in the assessed institutions in Ghana. These include the requirement for strong leadership and dedication to human capital development, conducting assessments to comprehend the current state of HCP and pinpoint areas for improvement, establishing systems for measurement, accountability, and feedback, fostering a culture of continuous learning and stakeholder buy-in, and coordinating human capital development initiatives with the precise competencies necessary to meet strategic goals. By putting these implications into practice, universities may improve their HCP strategies and support the broader expansion and advancement of the higher education market in Ghana and throughout West Africa and Africa.

To strengthen internal leadership to improve HCP in both UCC and UEW, we present some relevant recommendations. We recommend that a monitoring and evaluation system should be instituted to monitor talent deficits and help improve their ability to forecast future talent needs through HCP practices. This will ensure the success of HCP as it will help determine the type of talent required to execute the strategy. Faculties or Schools, Institutes, Departments, and Units of the universities must submit to their Deans, Heads, and Directors their human capital needs and potential supply sources to help the universities do proper HCP for approval by the leadership. This is critical to properly execute the universities' strategy. Since the proportion of males in the teaching category differ to a large extent from the proportion of females and high representation by teaching staff, findings from the study imply asymmetric policy dissemination of HCP with gender and category of staff in perspective.

The study was limited to two public universities, UCC and UEW. In this regard, differences were performed using the Mann–Whitney U Test for two categories of universities. Hence, further studies may consider an inquiry into the Strategies of HCP in other universities. Future studies that seek to assess the extent to which HCP varies among several universities can employ the One-Way ANOVA technique. It must also be noted that the selected universities in this study can be found in Ghana, and, therefore, a comparative analysis based on countries could not be ascertained. Considering the rise in globalisation, it is important to determine the extent to which universities across the globe differ in terms of their HCP practices for efficient international policy dissemination. Again, the study did not consider causal relationships among the study variables since the variables were better assessed descriptively rather than explanatorily. Additional variables can be employed to investigate their relationships with HCP strategies to reveal hidden outcomes. Other studies can balance and develop upon the outcomes of this HR-focused research, thereby providing a more thorough comprehension of education in Ghana.

Funding

No funding was received.

Author details

Justice K.G Agyenim Boateng¹

Daishonin Baah-Koranteng²

John Linscell Yen³

Emmanuel Asafo-Adjei^{4,5}

E-mail: eaadjei12998@gmail.com

ORCID ID: <http://orcid.org/0000-0002-4449-6285>

Anokye M. Adam⁴

¹ Institutional Affiliation Office, Directorate of Academic Affairs, University of Cape Coast, Cape Coast, Ghana.

² Registrar, CSIR College of Science and Technology, Accra, Ghana.

³ Directorate of Finance, University of Cape Coast, Cape Coast, Ghana.

⁴ Department of Finance, School of Business, University of Cape Coast, Cape Coast, Ghana.

⁵ Department of Economics, Faculty of Business and Economic Sciences, Nelson Mandela University, Port Elizabeth, South Africa.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Data availability statement

The data used in support of this study are available upon request.

Citation information

Cite this article as: Human capital planning of universities in Ghana: A comparative analysis of the University of Cape Coast and University of Education, Winneba, Justice K.G

Agyenim Boateng, Daishonin Baah-Koranteng, John Linscell Yen, Emmanuel Asafo-Adjei & Anokye M. Adam, *Cogent Business & Management* (2023), 10: 2260117.

References

- Abraham, K. G., & Mallatt, J. (2022). Measuring human capital. *Journal of Economic Perspectives*, 36(3), 103–130. <https://doi.org/10.1257/jep.36.3.103>
- Akrono, F. N. (2019). *Implementation of the human capital development strategies for employees in the publicly-funded universities in Ghana: Myth or reality* [Doctoral dissertation, University of Cape Coast].
- Al Shbail, M. O., Alshurafat, H., Ananzeh, H., & Bani-Khalid, T. O. (2022). The moderating effect of job satisfaction on the relationship between human capital dimensions and internal audit effectiveness. *Cogent Business & Management*, 9(1), 2115731. <https://doi.org/10.1080/23311975.2022.2115731>
- Alblooshi, M., Shamsuzzaman, M., & Haridy, S. (2021). The relationship between leadership styles and organisational innovation: A systematic literature review and narrative synthesis. *European Journal of Innovation Management*, 24(2), 338–370. <https://doi.org/10.1108/EJIM-11-2019-0339>
- Alfawaire, F., & Atan, T. (2021). The effect of strategic human resource and knowledge management on sustainable competitive advantages at Jordanian Universities: The mediating role of organizational innovation. *Sustainability*, 13(15), 8445. <https://doi.org/10.3390/su13158445>
- Amoako, G. K., Bawuah, J., Asafo-Adjei, E., & Ayimbire, C. (2023). Internal audit functions and sustainability audits: Insights from manufacturing firms. *Cogent Business & Management*, 10(1), 2192313. <https://doi.org/10.1080/23311975.2023.2192313>
- Anowuo, I. (2021). *Does human capital predict resources: Evidence from denominational institutions in Ghana?*
- Archer, C., Junior, P. O., Adam, A. M., Asafo-Adjei, E., & Baffoe, S. (2022). Asymmetric dependence between exchange rate and commodity prices in Ghana. *Annals of Financial Economics*, 17(2), 2250012. <https://doi.org/10.1142/S2010495222500129>
- Arrow, K. (1973). Higher education as a filter. *Journal of Public Economics*, 2(3), 193–216. [https://doi.org/10.1016/0047-2727\(73\)90013-3](https://doi.org/10.1016/0047-2727(73)90013-3)
- Asafo-Adjei, E., Hamidu, Z., Issau, K., Seidu, B. A., & Adam, A. M. (2023). The dark and bright side of network complexity: Novel insights from an asymmetric supply chain recovery and disruption approach. *Cogent Business & Management*, 10(2), 2225808. <https://doi.org/10.1080/23311975.2023.2225808>
- Aviso, K. B., Chiu, A. S., Demeterio, F. P., III, Lucas, R. I. G., Tseng, M. L., & Tan, R. R. (2019). Optimal human resource planning with P-graph for universities undergoing transition. *Journal of Cleaner Production*, 224, 811–822. <https://doi.org/10.1016/j.jclepro.2019.03.213>
- Baah-Boateng, W. (2013). *Human capital development: The case of education as a vehicle for Africa's economic transformation*.
- Bafarasat, A. Z., & Oliveira, E. (2021). Prospects of a transition to the knowledge economy in Saudi Arabia and Qatar: A critical reflection through the lens of spatial embeddedness and evolutionary governance theory. *Futures*, 129, 102731. <https://doi.org/10.1016/j.futures.2021.102731>
- Becker, G. S. (1964). Investment in human capital: A theoretical analysis. *Journal of Political Economy*, 70(1), 9–49. <https://doi.org/10.1086/258724>
- Boateng, E., Owusu Junior, P., Adam, A. M., Abeka, M., Jr., Qabhobho, T., & Asafo-Adjei, E. (2022). Quantifying information flows among developed and emerging equity markets. *Mathematical Problems in Engineering*, 2022. <https://doi.org/10.1155/2022/2462077>
- Bosman, A., & Agyei, S. K. (2022). Technology and instructor dimensions, e-learning satisfaction, and academic performance of distance students in Ghana. *Heliyon*, 8(4), e09200. <https://doi.org/10.1016/j.heliyon.2022.e09200>
- Bradley, J., Ruggieri, A., & Spencer, A. H. (2021). Twin peaks: COVID-19 and the labor market. *European Economic Review*, 138, 103828. <https://doi.org/10.1016/j.euroecorev.2021.103828>
- Cetindamar Kozanoglu, D., & Abedin, B. (2021). Understanding the role of employees in digital transformation: Conceptualization of digital literacy of employees as a multi-dimensional organizational affordance. *Journal of Enterprise Information Management*, 34(6), 1649–1672. <https://doi.org/10.1108/JEIM-01-2020-0010>
- Chaudhry, N. I., & Roomi, M. A. (2010). Accounting for the development of human capital in manufacturing organisations: A study of the Pakistani textile sector. *Journal of Human Resource Costing & Accounting*, 14(3), 178–195. <https://doi.org/10.1108/14013381011095463>
- Chen, Y., Luo, H., Chen, J., & Guo, Y. (2022). Building data-driven dynamic capabilities to arrest knowledge hiding: A knowledge management perspective. *Journal of Business Research*, 139, 1138–1154. <https://doi.org/10.1016/j.jbusres.2021.10.050>
- Collings, D. G., Nyberg, A. J., Wright, P. M., & McMackin, J. (2021). Leading through paradox in a COVID-19 world: Human resources comes of age. *Human Resource Management Journal*, 31(4), 819–833. <https://doi.org/10.1111/1748-8583.12343>
- Ekolu, S. O., & Quainoo, H. (2019). Reliability of assessments in engineering education using Cronbach's alpha, KR and split-half methods. *Global Journal of Engineering Education*, 21(1), 24–29.
- Ferreira, A., & Franco, M. (2020). The influence of strategic alliances on human capital development: A study applied to technology-based SMEs. *EuroMed Journal of Business*, 15(1), 65–85. <https://doi.org/10.1108/EMJB-04-2019-0052>
- Graham, L., Williams, L., & Chisoro, C. (2019). Barriers to the labour market for unemployed graduates in South Africa. *Journal of Education & Work*, 32(4), 360–376. <https://doi.org/10.1080/13639080.2019.1620924>
- Habib, M., Abbas, J., & Noman, R. (2019). Are human capital, intellectual property rights, and research and development expenditures really important for total factor productivity? An empirical analysis. *International Journal of Social Economics*, 46(6), 756–774. <https://doi.org/10.1108/IJSE-09-2018-0472>
- Hamadamin, H. H., & Atan, T. (2019). The impact of strategic human resource management practices on competitive advantage sustainability: The mediation of human capital development and employee commitment. *Sustainability*, 11(20), 5782. <https://doi.org/10.3390/su11205782>
- Hamidu, Z., Boachie-Mensah, F. O., & Issau, K. (2023). Supply chain resilience and performance of manufacturing firms: Role of supply chain disruption. *Journal of Manufacturing Technology Management*, 34(3), 361–382. <https://doi.org/10.1108/JMTM-08-2022-0307>
- Hamidu, Z., Issau, K., Boachie-Mensah, F. O., & Asafo-Adjei, E. (2023). On the interplay of supply chain network complexity on the nexus between supply chain resilience and performance. *Benchmarking: An*

- International Journal*. <https://doi.org/10.1108/BIJ-09-2022-0551>
- Hamidu, Z., Mensah, B. D., Issau, K., & Asafo-Adjei, E. (2023). Does technological innovation matter in the nexus between supply chain resilience and performance of manufacturing firms in a developing economy? *Journal of Manufacturing Technology Management*. <https://doi.org/10.1108/JMTM-11-2022-0384>
- Hassanein, F., & Özgüt, H. (2022). Sustaining human resources through talent management strategies and employee engagement in the middle East hotel industry. *Sustainability*, 14(22), 15365. <https://doi.org/10.3390/su142215365>
- Hutahayan, B. (2020). The mediating role of human capital and management accounting information system in the relationship between innovation strategy and internal process performance and the impact on corporate financial performance. *Benchmarking: An International Journal*, 27(4), 1289–1318. <https://doi.org/10.1108/BIJ-02-2018-0034>
- Iftikar, T., Hussain, S., Malik, M. I., Hyder, S., Kaleem, M., & Saqib, A. (2022). Green human resource management and pro-environmental behaviour nexus with the lens of AMO theory. *Cogent Business & Management*, 9(1), 2124603. <https://doi.org/10.1080/23311975.2022.2124603>
- Islam, M. S., & Amin, M. (2021). A systematic review of human capital and employee well-being: Putting human capital back on the track. *European Journal of Training & Development*, 46(5/6), 504–534. <https://doi.org/10.1108/EJTD-12-2020-0177>
- Khasawneh, S. (2011). HCP in higher education institutions: A strategic human resource development initiative in Jordan. *International Journal of Educational Management*, 25(6), 534–544. <https://doi.org/10.1108/09513541111159040>
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607–610. <https://doi.org/10.1177/001316447003000308>
- Krieg, J. M., Goldhaber, D., & Theobald, R. (2022). Disconnected development? The importance of specific human capital in the transition from student teaching to the classroom. *Educational Evaluation and Policy Analysis*, 44(1), 29–49. <https://doi.org/10.3102/016237372111025306>
- Kryscynski, D., Coff, R., & Campbell, B. (2021). Charting a path between firm-specific incentives and human capital-based competitive advantage. *Strategic Management Journal*, 42(2), 386–412. <https://doi.org/10.1002/smj.3226>
- Malik, F., & Nicholson, B. (2020). Understanding the interplay of institutional logics and management practices in impact sourcing. *Information Systems Journal*, 30(1), 125–149. <https://doi.org/10.1111/isj.12254>
- Mayer, C. (2021). The future of the corporation and the economics of purpose. *Journal of Management Studies*, 58(3), 887–901. <https://doi.org/10.1111/joms.12660>
- Miao, R., Lu, L., Cao, Y., & Du, Q. (2020). The high-performance work system, employee voice, and innovative behavior: The moderating role of psychological safety. *International Journal of Environmental Research and Public Health*, 17(4), 1150. <https://doi.org/10.3390/ijerph17041150>
- Nkrumah-Boadu, B., Owusu Junior, P., Adam, A., & Asafo-Adjei, E. (2022). Safe haven, hedge and diversification for African stocks: Cryptocurrencies versus gold in time-frequency perspective. *Cogent Economics & Finance*, 10(1), 2114171. <https://doi.org/10.1080/23322039.2022.2114171>
- Obeng, C. K., Frimpong, S., Amoako, G. K., Agyei, S. K., Asafo-Adjei, E., Adam, A. M., & Yang, X. (2022). Asymmetric exchange rate pass-through to consumer prices in Ghana: Evidence EMD-NARDL approach. *Journal of Mathematics*, 2022, 1–8. <https://doi.org/10.1155/2022/9075263>
- Padi, A., Ansah, W. O., & Mahmoud, M. A. (2022). Corporate entrepreneurship and employees' competencies: Do employees' perceived feasibility and desirability matter? *Cogent Business & Management*, 9(1), 2102129. <https://doi.org/10.1080/23311975.2022.2102129>
- Pollock, N., & Cornford, J. (2004). ERP systems and the university as a unique organisation. *Information Technology & People*, 17(1), 31–52. <https://doi.org/10.1108/09593840410522161>
- Saffu, K., Apori, S. O., Elijah-Mensah, A., & Ahumatah, J. (2008). The contribution of human capital and resource-based view to small-and medium-sized tourism venture performance in Ghana. *International Journal of Emerging Markets*, 3(3), 268–284. <https://doi.org/10.1108/17468800810883684>
- Saunders, M., Lewis, P., & Thornhill, A. (2019). Research methods for business students eighth edition. *QualitativeMarket Research: An International Journal*.
- Sima, V., Gheorghie, I. G., Subić, J., & Nancu, D. (2020). Influences of the industry 4.0 revolution on the human capital development and consumer behavior: A systematic review. *Sustainability*, 12(10), 4035. <https://doi.org/10.3390/su12104035>
- Sobel, I. (1982). Human capital and institutional theories of the labor market: Rivals or complements? *Journal of Economic Issues*, 16(1), 255–272. <https://doi.org/10.1080/00213624.1982.11503973>
- Sundram, S., Venkateswaran, P. S., Jain, V., Yu, Y., Yapanto, L. M., Raisal, I., & Regin, R. (2020). The impact of knowledge management on the performance of employees: The case of small medium enterprises. *Productivity Management*, 25(1), 554–567.
- Tzivinikou, S., Charitaki, G., & Kagkara, D. (2021). Distance Education Attitudes (DEAS) during covid-19 crisis: Factor structure, reliability and construct validity of the brief DEA scale in Greek-speaking SEND teachers. *Technology, Knowledge & Learning*, 26(3), 461–479. <https://doi.org/10.1007/s10758-020-09483-1>
- Vale, J., Miranda, R., Azevedo, G., & Tavares, M. C. (2022). The impact of sustainable intellectual capital on sustainable performance: A case study. *Sustainability*, 14(8), 4382. <https://doi.org/10.3390/su14084382>
- Xia, C., Qamruzzaman, M., & Adow, A. H. (2022). An asymmetric nexus: Remittance-led human capital development in the top 10 remittance-receiving countries: Are FDI and gross capital formation critical for a road to sustainability? *Sustainability*, 14(6), 3703. <https://doi.org/10.3390/su14063703>
- Zhou, Y., Fan, X., & Son, J. (2019). How and when matter: Exploring the interaction effects of high-performance work systems, employee participation, and human capital on organizational innovation. *Human Resource Management*, 58(3), 253–268. <https://doi.org/10.1002/hrm.21950>
- Zuboff, S. (2022). Surveillance capitalism or democracy? The death match of institutional orders and the politics of knowledge in our information civilization. *Organization Theory*, 3(3), 26317877221129290. <https://doi.org/10.1177/26317877221129290>
- Zula, K. J. (2007). *The development and initial assessment of an instrument for HCP*. [Unpublished doctoral dissertation]. Pennsylvania State University, University Park.
- Zula, K. J., & Chermack, T. J. (2008). *Development and initial validation of an instrument for HCP*.