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Effects of Management Competence, Firm-Level Institutions and HRM Bundles on the Performance of Private Universities in Ghana

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Abstract

The market for tertiary educational institutions, most especially for private universities, is highly competitive. The competitive nature of the market requires that Private Universities (PUs) step up their performance so as to remain competitive despite the major structural and market differences between them and public universities in the provision of tertiary education. The need for private universities to remain competitive in this turbulent market, calls for some careful examination of the factors that would enable private universities to enhance their performance. In this respect, this study sought to examine the effects of management competence, firm-level institutions, and human resource management (HRM) bundles on the performance of private universities in Ghana. Underpinned by the RBV and AMO theories, the study tested four hypotheses that sought to explain the relationships between the key variables of the study. The study was implemented using a quantitative research design. Out of the sixteen private universities sampled, thirteen private universities responded. The main research instrument was a structured questionnaire. Out of 230 questionnaires administered, 127 completed questionnaires were received and used for analysis. Collected data was analyzed using descriptive and inferential statistics (regression analysis) with the aid of SPSS software version 20 and AMOS version 23. Research findings from the tests of hypotheses established that management competence positively and significantly affected performance of private universities in Ghana. Though the study found that the composite variables of firm-level institutions and HRM bundles did not moderate the relationship between management competence and PU performance, the skills bundles (which is a component of the HRM bundles) significantly moderated the management competence – PU performance relationship in such a way that at high levels of skills bundle, management competence influences PU performance more than at low levels of skills bundle. Based on the findings of the study, it is recommended that PUs in Ghana institute competence acquisition and utilization policies, maintain appropriate firm-level institutions and HRM bundles and match these to their competence development strategies.

Keywords: Management competence, Firm-level institutions, Human resource management bundles, Private university performance

1. Introduction

1.1. Background of the Study

Over the past two decades, significant strides have been taken towards higher educational accessibility around the globe. Educational reforms in these two decades and the growth in demand for quality employable graduates in all sectors of the global economy led to the introduction of private universities (Sawyer, 2004). The recent proliferation of Private Universities (PUs) is as a result of the fact that demands for placement in public universities outstrips supply (Flavian & Lorenzo, 2006). Accordingly, massification (massive increase in enrolment in higher education) and the inability of public universities to cope with the ever increasing demand for higher education led to the advent and rapid proliferations of private universities (Mohamedbhai, 2013). Over the past decades the provision of quality tertiary education has been viewed by the African society as the preserve of government. However, with the advent of private universities on the continent, there has been some change in perspective.

The market for tertiary educational institutions, most especially Private Universities (PUs), is highly competitive. The high level of competition in the provision of higher education was occasioned by the coming into being of PUs. In Ghana, the beefed up competition has been as a result of the fact that most Colleges of Training now run diploma/degree courses. The competitive nature of the higher education sector in the country was further stimulated in the last quarter of 2015 by the conversion of some of the Regional Polytechnics into full-fledged Technical Universities by the government. This rising level of competition in the provision of higher education is, however, not skewed in the best interest of most PUs which already are battling with funding issues, and also struggling to enrol and retain students. For PUs to survive in this challenging environment, they have to meet and probably exceed stakeholders' expectations by maintaining high

standards of performance in their operations. Most PUs are also supposed to adhere to strict guidelines from mentor-universities and the National Accreditation Board (NAB), in all their undertakings while competing with same mentor-universities in a robust environment that influences their performance.

The deepening of tertiary education provision by both governments and private entities in Ghana requires that PUs step up their performance so as to remain competitive in spite of the differences in operating circumstances between them and public universities in the provision of tertiary education. The differences in operating circumstances between public and private universities such as: government funding for public universities while private universities rely on endowment funds and student related fees, students applying to private universities after unsuccessful attempts to enrol in government/state universities (Cabrito, 2004), ultimate survival for private universities is dependent on their student intake success (Ferreira & Hill, 2007) are compelling challenges for PUs to find out factors that influence their performance.

The competence of managers/heads of institutions, coupled with other factors influence the performance of institutions, be they public or private institutions (Almajali, Alamro, & Al-Soub, 2012). Managerial competence is a necessary condition for superior firm performance and in order to achieve acceptable levels of performance, PUs must, as a matter of principle, equip their management with the necessary competences – functional competence, social competence, and cognitive competence (Ismail & Abidin, 2010; Le Deist & Winterson, 2005). They also have to utilize their firm-level institutions – how managers lead, corporate culture, institutional procedures, and policies (Machuki, Letting', & Aosa, 2012) as well as their human resourcing strategies and bundles of practices (Subramony, 2009) for enhanced performance.

The term 'Management Competence' has been variously defined in the literature. According to Van Den Bosch and Van Wijk (1998), management competence is the ability of a manager to build the needed institutional capacities and competences and use them to help his/her firm achieve its goals. The concept is often understood as a blend of tacit and implicit knowledge, skills, aptitudes and abilities used by organizational managers to improve performance (IGI Global, 2017; Potgieter & Coetzee, 2010). Even though Ismail and Abidin (2010) concluded in their study that "a worker's competence is the most influential and core factor" when it comes to determining work performance, not much has been achieved as far as specifying which competences actually ensured/influenced organizational success. This makes the subject of management competence an exciting field of enquiry. How institutional managers create value and what is actually accomplished is in turn shaped by firm-specific internal circumstances (Firm-level institutions) and the human resource management practices (HRM bundles) that are put in place to aid firm-wise strategy implementation.

Firm-level institutions (FLs) are "humanly devised constraints that structure political, economic, and social interactions." (North, 1991) Firm-level institutions are described by Machuki, Letting' and Aosa (2012) as institutions which "constitute the internal organizational environment which define the context in which strategic decisions are made and implemented." On the basis of the outlined definitions, this study defines firm-level institutions as those firm-specific internal circumstances that help reduce uncertainty about exchanges, and defines the context in which organizations make and execute decisions that shape their competitive outlook. The firm-level institutions that are of particular importance to this study include: organizational culture, leadership style, organizational policies, and organizational procedures. These firm-level institutions must be well suited to the strategies adopted by PUs if significant competitive advantages are to be created. Strategic decision making within a firm's specific circumstances would require the employment of abled human resource capabilities in carefully crafted bundles so as to ensure effective firm performance.

Human resource management bundles are complementary Human Resource (HR) practices (Subramony, 2009; Tadic & Pivac, 2014). The works of Huselid (1995) and MacDuffie (1995) were foundational among SHRM literature in shifting focus on the use of HR practice bundles as the primary unit of analysis in assessing the effect of HR systems on firm performance rather than using individual HR practices. A study by Subramony (2009) revealed that "HRM bundles have significantly larger magnitudes of effects than their constituent individual practices, are positively related to business outcomes, and display effect sizes that are comparable to or larger than those of high-performance work systems." Following the leads of Subramony (2009) this current study examined empowerment, motivation, and skill bundles focusing on the relationships among such practices as they affect organizational outcomes (Jiang, 2012). The study also explores the moderating effects of HR practices on organizational performance (Jiang, et al., 2012; Subramony, 2009). This relationship is explored with the understanding that HR practices could create Sustainable Competitive Advantages (SCAs), contributing to organizational outcomes when more able employees are appropriately motivated and given the opportunity to act (Chowhan, 2016). This study use a parsimonious sub-bundle approach to examine how bundles of HR practices affect organizational outcomes (Chowhan, 2016; Guest et al, 2004). In examining HRM bundles, the treatment of: empowering-enhancing bundle was limited to: autonomous work arrangements and procedural justice process; motivation-enhancing bundle was limited to: employee compensation and rewards; and that of skill-enhancing bundle was limited to: selection methods, and training. The assumption under which this approach was adopted is that human resourcing practices are not stand-alone practices, but a system that should fit together in a complementary manner and be implemented in bundles (Huselid, 1995; Jiang, 2012).

Management competence, working through firm-specific internal circumstances that both help reduce uncertainty about exchanges, and defines the context in which organizations make and execute decisions and also working through complementary HRM bundles, affects firm performance.

Firm performance is defined as a collection of non-pecuniary and pecuniary measures which provides a mirror reflection on the extent to which firm objectives have been realized (Lebens & Euske, 2006). In respect of PUs performance in Ghana, consistent dwindling enrollment numbers, 'coupled with high operational and personnel costs', have affected their financial situation as well as their infrastructural development (Nsawah-Nuamah, 2017). Hence, taking into

consideration this multi-dimensional nature of PUs performance and to appropriately measure it, the Balanced Scorecard (BSC) model (Giannopoulos, et al., 2013; Kaplan & Norton, 1992) was adopted because of its multidimensional approach. Performance of PUs in Ghana were assessed from the BSC customer, internal business, and learning and growth perspectives.

There are four chartered and sixty-five accredited private institutions offering degree programs in Ghana (National Accreditation Board, 2017). These institutions were the target for the study since they cover the length and breadth of Ghana. The choice of the chartered and accredited degree granting PUs for the study was made on the grounds that: (i) the institutions must have met the accreditation requirements of the National Accreditation Board (NAB), Ghana and (ii) such institution must have been in operation for at least, the past four years as at september 2017. The selected PUs were appropriate for the study because they existed for at least, the past four years to warrant any performance assessment. The PUs under study can only be able to meet the expectations of stakeholders by developing the competencies of their management, aligning contextual institutional factors (firm-level institutions) and appropriately bundling their HR practices.

1.2. Problem Statement

The management of most PUs are apprehensive of the survival of their institutions owing to "the consistent dwindling enrolment numbers due to rising numbers of tertiary institutions, fears and unfair competitions from public universities" (Nsawah-Nuamah, 2017). This fear of the management of PUs notwithstanding, it has been observed that some PUs have become chartered institutions and no longer under mentorship. The existence of privately chartered tertiary universities, gives indication that, the survival of PUs may well depend on other issues/concerns such as management competences, firm-level institutions, and HRM practices. Existing literature, operationalized differently in varying contexts, has shown that management competence; firm-level institutions, and HRM bundles directly and indirectly affected organizational performance (Almajali, Alamro and Al-Soub, 2012; Ismail & Abidin, 2010; Machuki, Letting' and Aosa, 2012; Subramony, 2009).

Research conducted in the area of management competence and its impact on organizational performance, either examined management competence from no particular dimension (Almajali, Alamro, & Al-Soub, 2012), from a single dimension (Tiraieyari, Idris, Hamzah, & Uli, 2009), or from a multi-dimension (Kyongo, 2016) and invariably reported that management competence had a significant positive effect on organizational outcomes. While the aforementioned studies have reported a positive significant effect of management competence on organizational outcomes, empirical evidence from a study done in Ghana by Sanda, et al. (2011) established that the possession of needed competences by SME's executives did not reflect in the performance of their firms.

Different outcomes from research linking firm-level institutions to organizational performance abound. Individually studied, firm-level institutions (organizational culture, leadership style, processes and procedures, and policies) produced positive results. Studies on organizational culture have shown corporate culture to be the central driver of superior firm performance (Kotter & Heskett, 1992; Naranjo-Valencia, et al., 2016; O'Reilly III, et al., 2014). Also studies on organizational leadership style have shown that organizational leadership style is essential in enhancing firm performance (Grant, 2012; Osabiya & Ikenga, 2015; Zhu, et al., 2005). In respect of organizational procedures, a study by Shin, et al. (2015) established that ethical and grievance handling climate fully mediated the relationship between the leadership approaches of corporate managers and corporate citizenship behaviour and firm financial performance. However, when these and other firm-level institutions were studied together, they did not show any positive effect neither were they statistical significant. Machuki et al. (2012) investigated the direct effect of FLIs on the performance of firms and reported no significant influence of firm-level institutions on corporate performance of listed firms in Kenya.

The human resource literature has shifted focus to the use of HR practice bundles as the primary unit of analysis in assessing the effect of HR systems on firm performance rather than using individual HR practices. The works of Huselid (1995) and MacDuffie (1995) were foundational in effecting the shift. Consequently, research on HR practices has now shifted focus away from the the study of individual HR practice effects to the study of the bundle effects of HR practices (Chowhan, 2016; Guest, et al., 2004; Subramony, 2009).

Although the above-discussed research has enhanced the understanding of researchers and practitioners alike on the impact of management competence, firm-level institutions, HRM bundles on firm performance, answers to some relevant questions are still unclear such as: which management competence dimensions significantly impacted on organizational performance?, how does management competence interact with firm-level institutions in affecting firm performance? as well as how does HRM bundles affect the relationship between management competence and organizational performance? Given these considerations, the study answered the general question, what are the effects of managerial competence, firm-level institutions and HRM bundles on the performance of private universities in Ghana? Specifically, in answering this general question, the study identified specific competences that impacted on the performance of PUs, examined the indirect effect of firm-level institutions and HRM Bundles (as rather moderating the relationship between management competence and firm performance) on firm outcomes, and finally assessed the combined effect of management competence, firm-level institutions, and HRM bundles on PUs performance in Ghana.

1.3. Research Objectives

1.3.1. General Objective

The overriding objective of this research was to examine the effects of management competence, firm-level institutions and HRM bundles on the performance of Private Universities in Ghana.

1.3.2. Specific Objectives

The specific objectives derived from the general study objective were as follows:

1. To identify and describe which specific management competencies create competitive advantages for and impacted on the performance of Private Universities.
2. To determine the effect of management competence on private universities' performance.
3. To ascertain the effect of firm-level institutions on the relationship between management competence and performance of private universities.
4. To ascertain the effects of HRM bundles on the relationship between managerial competence and private universities' performance.
5. To determine the combined effect of managerial competence, firm-level institutions, and HRM bundles on the performance of private universities in Ghana.

2. Literature Review

This section presents a review of existing literature relating to the extant research. The section started off with the examination of the theoretical underpinnings of key variables that formed the basis of the study in an appropriate conceptual context. What is known already about the relationships in the literature was thematically reviewed in relation to the set study objectives so as to make a case for testing these relationships in the operations of private universities in Ghana.

2.1. Theoretical Perspectives and Conceptual Framework of the Study

The Resource-Based View (RBV) and Ability-Motivation-Opportunity (AMO) are the theories that informed this study. The RBV theory postulates that organizations can gain sustainable competitive advantage (SCA) from unique and valuable resources and capabilities that have no available substitutes and cannot be easily imitated, under their control (Barney J. , 1991). RBV represents a change in viewpoint in the SHRM literature that advocates assessing firm performance in terms of the internal resources of the firm and not in terms of its external context (Beardwell & Claydon, 2007). That is, this theory takes an 'inside-out' approach to competitive strategy formulation –mapping and aligning a firm's internal capabilities to the challenges and opportunities outside that they can mitigate against as well as take advantage of (Davis, 2017). The AMO theory, on the other hand, posits that when employees are skillful, have the right levels of intrinsic and extrinsic motivation, and are granted the opportunities to put their acquired competences and knowledge into use, such employees become satisfied with their job roles, become committed organizational members and perform better (Appelbaum, Bailey, Berg, & Kalleberg, 2000).

To extend theory and increase understanding about the effect of management competence on PUs' performance and the role of firm-level institutions and HRM bundles in the process, the study integrated RBV theory with AMO theory (Appelbaum, et al., 2000; Barney, 1991). This was made possible by two basic tenets drawn from the AMO and RBV theories. The first of the tenets is that, firm resources are acquired, developed, and then configured to create firm-specific capabilities that are instrumental to competitive advantage and higher performance. The second tenet is that, maximizing the value of bundled resources depends on how competent managers are in deploying firm resources (Backman, et al., 2017; Bharadwaj, 2000; Wu & Chen, 2014).

Studies on how well firms can use resources – human resource capabilities, leadership and firm cultural dynamics, business processes, procedures, and policies – within their immediate control to gain competitive edge in their respective industrial settings and be successful have been largely based on the tenets of the RBV theory (Barney, 1986, 1991; Barney & Wright, 1998; Penrose, 1959) and the AMO theory (Appelbaum, Bailey, Berg, & Kalleberg, 2000). Studies using the RBV theory based their explanation of firm performance on the argument that organizational performance is a function of how well managers build their firms around valuable and unique resources that cannot be copied easily and that have no perfect substitutes at their disposal and/or within their reach (Barney, 1991; Campbell & Park, 2016; Davis, 2017; Kyongo, 2016; Qureshi, et al., 2017). Also, studies using the AMO theory based their explanation of firm performance on the belief that certain human resourcing practices serve to boost the Knowledge, Skills, and Abilities (KSAs) of individual workers, improve employee willingness to exert conscientious effort and provides the opportunities employees need for talent expression at work (Boselie, 2010; Purcell & Hutchinson, 2007).

The present study relied on the RBV and AMO theories to develop the conceptualization of management competence, firm-level institutions, and HRM bundles as they function at the organizational level of analysis to impact PUs performance (see Figure 1). It is more appropriate to use the RBV and the AMO theories because the present study focused on identifying valuable, rare and specific non-substitutable management competences that are unique to PUs' internal operating circumstances as shaped by their HRM systems and firm-level institutions and how these help achieve SCAs and ultimately impacted on PUs' performance. From the perspective of the RBV, firm-level institutions are internal operating resources that must be valuable and distinctive enough to the operating circumstances of the PUs under study. The organizational culture, style of management leadership in vogue, organizational policies and procedures of PUs must meet the test of robustness in terms of value, distinctiveness, having no close substitutes, and cannot be copied easily. Also from the AMO paradigm, the firm-level institutions under study can either serve to motivate PUs employees to perform at desirable levels or demotivate them consequently affecting firm performance negatively. The internal operating circumstances of PUs can further provide avenues (opportunities) for PU employees to put their distinctive competences to work for organization-wide performance improvement or can serve as barriers to management and employees' initiatives.

The study model presented in Figure 1 below provides a lens through which HR practitioners and researchers can take a firm-specific view on SCA and organizational performance that centres on management competence as a unique capability that firms can develop through strategic bundling of HRM practices and through structuring a set of firm-level institutions to ensure conducive internal operating environment and to motivate employees across the organization.

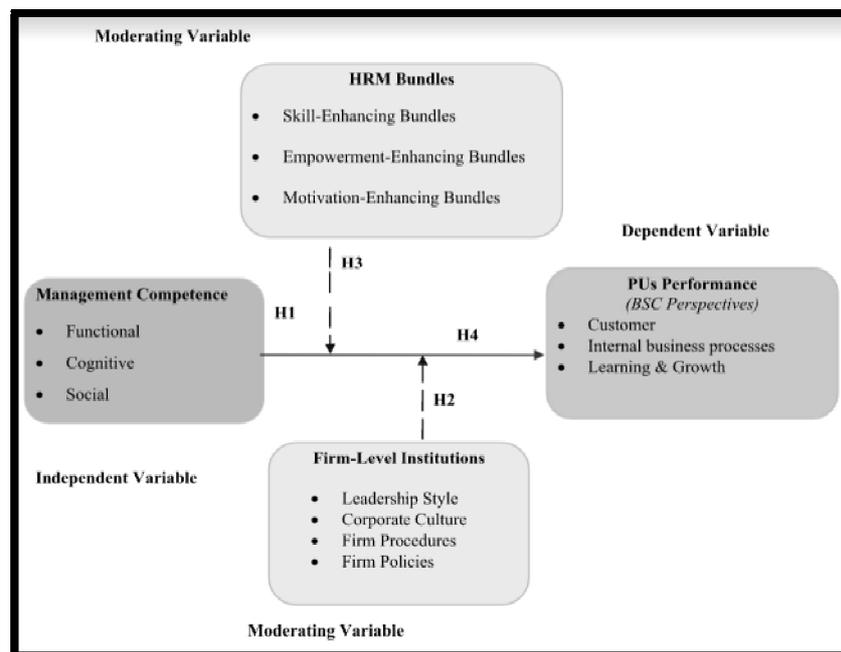


Figure 1: Conceptual Model
Source: Author's Construct (2018)

2.2. Management Competences, Firm-Level Institutions, HRM Bundles and Private Universities' Performance

Many private universities are under increasing pressure for performance excellence that will make them stand out as far as the provision of higher quality education is concerned. The stress on quality assurance and management in higher education by educational regulators and institutional managers reflects the need for the determination of specific competences that drive performance excellence (Campatelli, Citti, & Meneghin, 2011). It is more meaningful to speak of the specific competences that PUs require for their day-to-day operations than the number of employees required. Education Criteria for Performance Excellence (ECPE, 2011) require Higher educational institutions (HEIs) to be operationally capable, have capable faculty staff, and also develop leadership capabilities, necessary for the attainment of excellence in performance and SCA. Generally, however, there are three priority areas for which specific capabilities can be determined and along which performance is also generally measured. Research is one such area for which excellence in competence and contribution to knowledge is required, effective programme design and delivery is the other, and service to the university and community, the third priority area (Badri & Abdulla, 2004; Khosravi & Chavan, 2012; Lukman, et al., 2010). Empirical research shows that functional competencies, cognitive competencies, and social competencies of firm managers drive superior firm performance (Asif & Searcy, 2014; Baron & Markman, 2003; Baron & Tang, 2009; Goodall 2006, 2009a,b; Monari, 2013; Nooraie & Arsi, 2012). These, notwithstanding, there are other empirical studies that showed that the mere possession of competences does not necessarily translate to higher performance (Sanda, et al., 2011). The study by Sanda, et al. (2011) in Ghana showed that the managerial competences of executives of small firms in Ghana did not have positive impact on the performance of their firms. Given this inconclusive feedback on the effect of managerial competences on firm performance, the extant study sought to fill the gap on managerial competence effect. To do this, the study hypothesized that:

- H₁: Management competence has a significant and positive effect on PUs performance in Ghana.

Firm-level institutions as defined by this study are those firm-specific internal circumstances that help reduce uncertainty about exchanges, and define the context in which organizations make and execute decisions that shape their competitive outlook. Firm-level institutions have the general effect of creating the internal enabling environment for institutional managers to actually engage in value creation for their stakeholders. This is so because such firm-level institutions as leadership style, firm procedures, firm policies, as well as corporate culture influence management competences which contribute to organizational performance. In this respect, firm-level institutions are seen as moderating the management competence and firm performance relationship. The success of organizations cannot be isolated from the values, attitudes, abilities and behaviour of their leaders. Leaders of firms not only influence the work specifics of their organizations, they also shape the expectations of both partners and customers. In a Kenyan study, Machuki, Letting' and Aosa (2012) reported results that showed that management style had a positive effect on total net assets and market share of listed companies in Kenya, even though the effect was statistically not significant. On the other hand, however, Goulding, et al. (2012) in a study on the importance of political and strategic skills for UK library leaders established that organizational managers (formal leadership) does not in itself determine firm success anymore. In respect

of firm procedures and policies, Studies linking firm processes, and procedures to firm performance have shown mixed outcomes. Machuki, Letting' and Aosa (2012) in a study established that firm market share was positively related to firm procedures, but firm operational efficiency, product/service quality, and profit before tax were negatively related to firm procedures. In respect of organizational procedures put in place to ensure responsible corporate behaviour, a study by Shin, et al. (2015) established that ethical climate and grievance handling processes fully mediate the effects of corporate ethics on the firm outcomes of corporate citizenship behaviour and firm financial performance. In respects of firm policies, research evidence have shown that implemented HRM policies enhanced firm strategic capabilities and performance (Katou, 2012; Kim & Lee, 2012). Also, regarding organizational culture effect on firm performance, while some literature have often been indicative of the potential of OC to contribute to enhanced firm performance (Gunasekaran & Spalanzani, 2012; Pampanelli, et al., 2014; Saffold, 1998), empirical studies have generated mixed results on the influence of OC on firm performance. A strand of empirical studies established significant positive relationships between OC and firm performance (Ezirim, et al., 2010; Gordon & DiTomaso, 1992; Kotter & Heskett, 1992). For instance, the study of Ezirim, et al. (2010) reported significant positive relationship between OC and profitability, sales volume, and market share of firms in Nigeria. In addition to these studies, the study of Bezrukova, et al. (2012) provided further evidence that OC is positively associated with worker attitudes and firm performance. Notwithstanding these positive associated strand empirical evidence, some empirical studies exist that show that OC is either not associated with or is negatively associated with firm performance (Machuki, Letting' and Aosa, 2012; Martinez, et al., 2015; Sorensen, 2002). For instance, the study of Machuki, Letting' and Aosa (2012) reported negatively not significant effect of OC on return on investment (ROI), new product introduction, and market share of listed firms in Kenya. These two strands of empirical evidence presented explicitly investigated the effect of OC (either as a stand alone variable or together with other variables such leadership style) on organizational performance.

Besides the above strand of research that examined the direct effect of OC on firm performance, another strand of empirical studies have shown OC to have a moderation effect on management behaviour and firm performance (Boiral, et al., 2009; Jabbour, et al., 2013; Renwick, et al., 2012; Yiing & Ahmad, 2009; Usman & Romlee, 2017). Worthy of note is the study of Usman and Romlee (2017) which found that OC did not moderate the relationship between individualism and firm performance, but rather moderated the relationships between power distance, masculinity and firm performance. Therefore, based on some of these studies that have found some firm-level institutions to moderate the relationship between management competence and firm performance, it is hypothesized in this study that:

- H₂: Firm-level institutions moderate the relationship between management competence and PUs performance.

Strategic Human Resource Management (SHRM) literature has shifted focus on the use of HRM practice bundles as the primary unit of analysis in assessing the effect of HRM systems on firm performance rather than using individual HR practices (Huselid, 1995; MacDuffie, 1995). A firm's overall performance, in comparison to the sum of its individual HRM practices, is enhanced by means of the quality effects of its HRM system. The constituted HRM practices within a firm's HRM system complement each other in effecting an increase in overall firm performance (Chadwick, 2010). In a meta-analysis, Subramony (2009) examined HR practice bundles and firm performance and established larger significant effects of HRM bundles that are positively related to firm outcomes. Recently too, the study of Chowhan (2016) provided evidence that skill, motivation, and opportunity HRM bundles significantly contributed to firm gross profit per employee performance. Notwithstanding these direct linkages between HRM bundles and firm performance, some other studies have shown that HRM bundles can and do moderate the relationship between management competence and firm performance. It can be observed from the study report of Risher (2000) that employees are compensated commensurate to the level of skills and competence displayed, that compensation – a motivation-enhancing HRM practice – potentially moderates the relationship between managerial competence and firm performance. Similarly, training and education – a skill-enhancing HRM practice – has been found as a factor that enhance individual competence which in turn affects firm performance (Alainati, Alshawi, & Al-Karaghoul, 2011). On this basis, the study opined that PUs can enhance their outcomes by HRM systems that enhance skill optimization and by putting in place germane working conditions that educe desired work behaviours and provide opportunities for employees to contribute positively. From this understanding, it was hypothesized that:

- H₃: HRM bundles moderate the relationship between management competence and PUs performance.

For firms to achieve SCA over the long-term, an internal fit among management competence, HRM bundles, and firm-level institutions is envisaged. This is because the synergistic effect of unique, valuable and non-substitutable management competence, HRM bundles, and firm-level institutions is expected to be higher than their individual effects. Research on the combined effect of management competence, firm-level institutions, and HRM bundles on organizational performance is limited. The only known study to the research was the one conducted by Kyongo (2016) which found that the combined effect of management competence, firm-level institutions and HR bundles of practices was greater on the performance of companies listed on the Nairobi Securities Exchange than the effect of management competence alone. Given that only one known study to the research tested the relationship, it is hypothesized in this study that:

- H₄: The combined effect of management competence, HRM bundles, and firm-level institutions on PUs' performance is greater than their individual effects.

3. Methodology

3.1. Research Philosophy

The philosophical foundation on which this study was built is positivism. Positivism is a philosophy of science that advocates the study of social phenomena on the basis of facts that is devoid of the subjective feelings of the researcher and

that of the subjects of study and the meanings they ascribe to the phenomena being studied (Bryman & Bell, 2007; Saunders, Lewis, & Thornhill, 2012).

3.2. Research Design

The study used a quantitative research design which was implemented using a descriptive and cross-sectional survey strategy. The quantitative design was chosen so as to enable the researcher reduce subjectivity and arrive at study conclusions that are objective in character (Bryman & Bell, 2007; Kealey & Protheroe, 1996; Saunders, Lewis, & Thornhill, 2012). The survey strategy that was used in the study was informed by three reasons. The first reason for adopting the survey strategy is that it was found to be highly economical for the collection of standardised data. Secondly, the use of the survey strategy allowed the collection of quantitative data that were analysed quantitatively using descriptive and inferential statistics. Finally, using the survey strategy made it possible for the generation of study findings that were representative of the total population of PUs in Ghana at a lower cost than it would have been for generating findings from data on the whole study population (Saunders, Lewis, & Thornhill, 2012).

3.3. Target Population

There are 69 private universities (PUs) in Ghana. However, 31 PUs out of the total of 69 PUs constituted the effective study population. The choice of the PUs for the study was made on the grounds that: (i) the institutions must have met the accreditation requirements of the National Accreditation Board (NAB), Ghana and (ii) such institution must have been in operation for at least, the past four years as at September 2017.

3.4. Sample Size and Sampling Procedure

Even though the effective population of PUs in Ghana that the present study is interested in is a sizeable one, it was still necessary to sample given the widely dispersed nature of the PUs. The appropriate sample size for the study was taken to be 16 degree awarding PUs in Ghana. This sample size was arrived at by means of using the probability sampling techniques of stratified random, systematic random, and simple random. Using the stratified random sampling procedure, PUs in Ghana were grouped on the basis of whether the university was chartered or non-chartered (under mentorship). The rationale for the stratification was to ensure that each of the strata was proportionally represented within the study sample. Thereafter, systematic random sampling technique was used to select study samples from the chartered PUs' stratum. Two chartered PUs were required in the study sample. To ensure the likelihood of equal representation within this stratum, a sampling fraction was determined to be $\frac{1}{2}$ (Sampling fraction = $\frac{\text{Actual Chartered PUs sample size}}{\text{Total Chartered PUs population}}$). Using this sampling procedure, one of the first two chartered PUs on the sampling frame was chosen at random and the subsequent second case was added to reach the desired sample size of 2 chartered PUs. Finally, the simple random sampling procedure was used to select the appropriate sample of 14 PUs from the non-chartered PUs' stratum. The rationale for using this sampling technique was to give each PU in the non-chartered PUs' stratum an equal chance of being selected to form part of the overall study sample.

The specific respondents of the study were mainly management staffs of the universities surveyed. All management staff of PUs right from the Vice Chancellors to Head of Departments (HODs) was selected to participate in the study by default. To cross-validate the opinions and perceptions of the management staff, some lecturers were also selected at random using either their office room numbers or the list of lecturers that HODs were generous to allow access.

3.5. Research Instrument

The study used a structured, self-administered questionnaires to collect primary data. The used of the structured questionnaires made it easier to obtain quick and straightforward responses from respondents who only had to choose the most suitable answer that applied in their university and also, it was easier coding such questions (Collis & Hussey, 2009; Sekaran, 2010). The instrument was validated using reliability and validity tests. The Cronbach alpha for the independent variable, management competence, scale items was 0.97, that of the moderating variables, firm-level institutions and HRM bundles, scale items were 0.97 and 0.96 respectively and finally for the dependent variable, private universities' performance, was 0.92. The overall Cronbach alpha for the instrument was 0.91. Content validity was ensured by adapting tested instruments that were used by other studies and with a good coverage of all the areas of investigation. In furtherance of the need to establish instrument validity, confirmatory factor analysis (CFA) was carried out. The model fitness indices presented in Table 1 showed that the study model had goodness-of-fit.

Measures	NFI	IFI	TLI	CFI	RMSEA
Management Competence	0.851	0.956	0.947	0.955	0.053
Firm-level Institutions	0.809	0.943	0.930	0.941	0.052
HRM Bundles	0.851	0.938	0.925	0.937	0.069
PU Performance	0.906	0.955	0.929	0.954	0.081

Table 1: CFA Model Fit Indices

Source: Fieldwork, 2018

3.6. Data Collection

Since only 13 PUs accepted to participate in the study, data was collected from 13 PUs with a respondent strength of 200 permanent staff out of the 16 PUs sampled. The administration of the study instrument was personally done by the researcher across four regions out of the 10 regions of Ghana as at the time the study was conducted – Bono-Ahafo, Ashanti, Greater Accra, and Volta – were the participating PUs were located. Out of a total of 200 questionnaires distributed, 127 were completed and fit for data analysis. Hence, the data collection response rate was 63.5%.

3.7. Data Analysis Technique

The raw data collected from the study were computed into SPSS software version 20 and AMOS version 23 for analysis. The AMOS software was only used for confirmatory factor analysis. Data was analysed by means of descriptive and inferential (regression analysis) statistics after the regression analysis assumptions of linearity, normality, homogeneity, and multicollinearity were met. Correlation analysis was carried out to examine the nature and strength, and not the causality, of the relationships among the variables so observed. The data gathered from management staff and non-management staff in PUs was aggregated to the organizational level before running the regression analysis to test the study hypotheses. Aggregation became necessary in this study because in the first instance, the conceptualization of the study model was theorized at the organizational level, secondly because multiple raters were used so as to avoid single rater bias, and thirdly because of pragmatic, data analytical considerations since even though the study conceptual model was framed at the organizational level, individual data collection was the only feasible data collection procedure. The composition of group level measures of PUs was achieved from lower-level members by using David Chan's referent-shift composition model (Chan, 1998). Regression analysis was carried out after composite indices for the study variables – management competence, firm-level institutions, HRM bundles, and PU performance – were appropriately constructed to facilitate the analysis. The results generated were presented using tables, and upon which the researcher made a detailed discussion on the results obtained.

4. Data Presentation, Analysis, and Discussion

4.1. Correlation Analysis

Pearson product-moment correlation model was used to examine the nature and strength, and not the causality, of the relationships among the variables so observed. The correlation coefficients presented in Table 4 showed a strong positive relationship among the study variables.

		Management Competence	Firm-level Institutions	HRM Bundles	PU Performance
Management Competence	Pearson Correlation	1			
	Sig. (2-tailed)				
	N	127			
Firm-level Institutions	Pearson Correlation	.758**	1		
	Sig. (2-tailed)	.000			
	N	127	127		
HRM Bundles	Pearson Correlation	.657**	.821**	1	
	Sig. (2-tailed)	.000	.000		
	N	127	127	127	
PU Performance	Pearson Correlation	.595**	.713**	.782**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	127	127	127	127

Table 2: Correlation Matrix

Source: Fieldwork, 2018

** Correlation is Significant at the 0.01 Level (2-tailed)

The relationship between management competence and PU performance was positive and significant at $r = 0.595$, $p < 0.01$. A significant and strong positive relationship was recorded between firm-level institutions and PU performance at $r = 0.713$, $p < 0.01$. A strong relationship was also established between HRM bundles and PU performance at $r = 0.782$, $p < 0.01$. The relationship between Management competence and HRM bundles was positive and significant at $r = 0.657$, $p < 0.01$. The most positive and significant relationship was recorded between Firm-level institutions and HRM bundles at $r = 0.821$, $p < 0.01$. The relationships so established among the variables were not highly correlated to cause any multicollinearity problems and thus were most appropriate for use for regression analysis (Hair, Black, Babin, & Anderson, 2010).

4.2. Descriptive Statistics

4.2.1. Managerial Competence in Private Universities

Domain	Dimension	Mean	Std. Deviation	Variance
Management Competence	Functional Competence	3.5095	.35045	.123
	Social Competence	3.4190	.41194	.170
	Cognitive Competence	3.6140	.59751	.357
	Total	3.5142	.45330	.205

Table 3: Management Competence Statistics

Source: Fieldwork, 2018

Three dimensions of competence namely, functional competence, social competence, and cognitive competence were used to measure the construct, management competence. From the statistics in Table 3, the competence dimension that is heavily relied on in PUs in Ghana is cognitive competence with a mean score of 3.6140 on a scale of 1-5 and a standard deviation of 0.59751. The next well applied competence dimension is functional competence with a mean score of 3.5095 and a standard deviation of 0.35045 and the least applied competence was social competence with an average score of 3.4190 and a standard deviation of 0.41194. Overall, management competence was utilized to a large extent in PUs in Ghana since the overall mean score of 3.5142 is closer to 4 on the 1-5 points' scale that was used to measure the construct.

4.2.2. Firm-level Institutions of Private Universities

Domain	Dimension	Mean	Std. Deviation	Variance
Firm-level Institutions	Corporate Culture	3.3266	.20066	.040
	Leadership Style	3.3663	.35224	.124
	Corporate Policy	3.7378	.29063	.084
	Corporate Procedure	3.4412	.33881	.115
	Total	3.4680	.29559	.087

Table 4: Firm-level Institutions Statistics

Source: Fieldwork, 2018

Corporate culture, leadership style, corporate policies, and corporate procedures were issues that were used to measure the construct, Firm-level Institutions. Judging from the statistics in Table 4, corporate policy with a mean score of 3.7378 on a scale of 1-5 and a standard deviation of 0.29063 emerged as the highest single institutional factor that informed the internal operating circumstances of PUs in Ghana. The next influential factor is corporate procedures with a mean score of 3.4112 followed by the leadership styles of PUs' managers with a mean score of 3.3663 and a standard deviation of 0.35224. The least influential factor was corporate culture with an average score of 3.3266 and a standard deviation of 0.20066. Overall, firm-level institutions were to a large extent applied in PUs in Ghana since the overall mean score of 3.4680 is closer to 3 on the 1-5 points' scale that was used to measure the construct.

4.2.3. HRM Bundles of Private Universities

Domain	Dimension	Sub-Dimension	Mean	Std. Deviation	Variance	
HRM Bundles	Skills Bundle	Staffing	3.5667	.13418	.018	
		Training	2.9126	.16717	.028	
		Sub-Total	3.2396	.15068	.023	
	Motivation Bundle	Performance management	2.9366	.02439	.001	
		Benefits	2.8386	.11953	.014	
		Sub-Total	2.8876	.07196	.005	
	Empowerment Bundle	Participation	3.0680	.17033	.029	
		Voice	3.0508	.07180	.005	
		Sub-Total	3.0594	.12106	.015	
	Grand Total			3.4680	3.0622	.11457

Table 5: HRM Bundles Statistics

Source: Fieldwork, 2018

Skills bundle, motivation bundle, and empowerment bundle constituted the HRM bundles that were measured. These were assessed using a sub-bundle approach. From the statistics in Table 5, Skills Bundle with a mean score of 3.2396 on a scale of 1-5 and a standard deviation of 0.15068 emerged as the single most rated dimension of HRM bundles of PUs in Ghana. Empowerment bundle was the next highly rated in terms of mean scores as it had a recorded mean of 3.0594 compared to mean score of 2.8876 for motivation bundle. Overall, the three dimensions of HRM bundles were to a

large extent applied in PUs in Ghana since the overall mean score of 3.4680 is closer to 4 on the 1-5 points' scale that was used to measure the construct.

4.2.4. Performance of Private Universities

Domain	Dimension	Mean	Std. Deviation	Variance
PU Performance	Customer Perspective	3.0394	.09222	.009
	Internal Business Processes	3.5834	.07238	.005
	Learning & Growth	3.0398	.06994	.005
	Total	3.2209	.07818	.006

Table 6: Private University Performance Statistics
Source: Fieldwork, 2018

Judging from the statistics in Table 6 above, Internal Business Processes with a mean score of 3.5834 on a scale of 1-5 and a standard deviation of 0.07238 emerged as the single most rated performance measure of PUs in Ghana. Both customer perspective and Learning Growth Perspective were equally rated in terms of their means even though with different standard deviations of 0.09222 and 0.06994 respectively. Overall, the three Balanced Score Card performance measures were moderately applied in PUs in Ghana since the overall mean score of 3.2209 is closer to 3 on the 1-5 points' scale that was used to measure the construct.

4.3. Inferential Statistics

4.3.1. Data Aggregation

The data gathered from management staff and non-management staff in PUs was aggregated to the organizational level before running the regression analysis to test the study hypotheses. Using aggregated data at the organizational level to run analysis required a certain degree of agreement between the respondents' classes. Thus, for study data to be aggregated at the organizational level, the a priori conditions for interrater agreement (IRA) and interrater reliability (IRR) must be met. Empirical support that justified data aggregation was obtained using SPSS Intraclass Correlation Coefficient under the Two-Way Mixed model and Absolute Agreement type and the results displayed in Table 7.

	Intraclass Correlation ^b	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	.390 ^a	.109	.998	223.985	1	107	.000
Average Measures	.986 ^c	.930	1.000	223.985	1	107	.000

Table 7: Intra Class Correlation Coefficient

Two-Way Mixed Effects Model Where People Effects Are Random and Measures Effects Are Fixed

a. The Estimator Is the Same, Whether the Interaction Effect Is Present or Not

b. Type an Intra Class Correlation Coefficients Using an Absolute Agreement Definition.

c. This Estimate Is Computed Assuming the Interaction Effect Is Absent, Because It Is Not Estimable Otherwise

Source: Fieldwork, 2018

Examining the average measures of Table 4.13, the intraclass correlation coefficient is 0.986 indicating an excellent IRR, and the 95% confidence interval of the lower bound of 0.930 and an upper bound of 1.00 are also excellent. Thus, all three ICCs figures are far higher than the acceptable cut-off figure of 0.70 and are therefore excellent proof that IRAs are homogenous enough for within group aggregation.

4.4. Test of Hypotheses

4.4.1. Hypothesis One Results and Discussion

This hypothesis sought to find out whether managerial competence has a significant positive effect on the performance of PUs in Ghana. Simple linear regression was used to achieve this by testing hypothesis H₁ in Figure 1 in correspondence with study specific objectives 1 and 2. The results of the regressions conducted for functional competence, social competence, cognitive competence, and the composite management competence are presented in Tables 4.7.

PU Performance	Variable			
	FC	SC	CC	MC
Individual Effect	0.563(7.620)***	0.559(7.537)***	0.540(7.172)***	
Composite Effect				0.592(8.217)***
R ²	0.317	0.312	0.292	0.351
Fitness Index				
F	58.069	56.804	51.431	67.522

Table 8: Simple Linear Regression Results for Hypothesis 1

Note: Effect Values Are Standardized Coefficients; Values in Parenthesis Are T-Statistics,

*** $P < .001$ (Two-Tailed Tests). FC= Functional Competence, SC= Social Competence,

CC= Cognitive Competence, MC= Management Competence.

Source: Fieldwork, 2018

From Table8, it is observed that 31.7%, 31.2%, and 29.2% of the variation in private university performance is explained by the variation in functional competence (R-Square = 0.317), social competence (R-Square = 0.312), and cognitive competence (R-Square = 0.292) respectively. That is, a one per cent increase in the functional, social, and cognitive competence of managerial staff in private universities would, all things being equal, result in an increase in private university performance by approximately 32%, 31%, and 29% respectively. The standardized coefficients for functional competence ($\beta=0.563$, $t=7.620$, $p=0.000<0.001$), social competence ($\beta=0.559$, $t=7.537$, $p=0.000<0.001$), and for cognitive competence ($\beta=0.540$, $t=7.172$, $p=0.000<0.05$) showed that, increasing the functional, social, and cognitive competences of private university managerial staff by a unit will improve private university performance by 0.563, 0.559, and 0.540 respectively ceteris paribus. Hence the findings in Table8 confirm all the three dimensions of managerial competence significantly affected the performance of private universities in Ghana.

Specific objective one was to identify and describe specific managerial competences that create competitive advantages for and impacted on the performance of Private Universities. From the summary regression statistics on individual effect in Table8, it is shown that functional, social and cognitive dimensions of managerial competence all are correlated with PU performance and has positive significant effects on private university performance in Ghana. Notwithstanding that all three managerial competence dimensions correlated with PU performance, it can be observed from the R-values that functional competence ($r=0.563$), and social competence ($r=0.559$) are, approximately, highly correlated with PU performance. Also, in terms of contribution to private university performance, functional competence makes the most contribution ($\beta=0.563$), followed by social competence ($\beta=0.559$) with a contribution to PU performance difference of ($\beta=0.004$). Among the three competence dimensions, cognitive competence makes the least contribution of ($\beta=0.540$) to PU performance in Ghana. The marginal difference in contribution to PU performance between functional competence and cognitive competence is ($\beta=0.023$). In respect of the variations observed in PU performance in Ghana, 31.7% of the variation in performance is accounted for by functional competence, 31.2% by social competence, and 29.2% by cognitive competence. Overall, the summary results on individual effect in Table8 and the analysis thereof suggest that Private universities in Ghana would be better off leveraging on the functional competence of managerial staff as it accounts for a greater per cent in performance variation.

The second study objective was about determining the effect of managerial competence on PU performance in Ghana. From the composite effect statistics in Table8, a strong positive correlation between management competence (the independent variable) and private university performance (the dependent variable) as is indicated by the R-value of 0.592 was observed. The analysis further showed that 35.1% of the variation in the dependent variable is explained by the variation in the independent variable (R-Square = 0.351). The standardized coefficients for management competence ($\beta=0.592$, $t=8.217$, $p=0.000<0.001$) showed that, increasing the competence of private university managerial staff by a unit will improve private university performance by 0.592 ceteris paribus. The regression results in Table8 confirmed hypothesis H_1 that management competence has a significant and positive effect on the performance of private universities in Ghana. Hence, it is suggested for private universities in Ghana to consider developing and improving management competence so as to enhance performance.

This is consistent with what Monari (2013) reported in a study on employee performance in chartered universities in Kenya that competence positively related to worker performance. The studies of both Kyongo (2016) and Zehir, et al. (2016) also established that management competence has an effect on organizational performance. While Zehir, et al. (2016) concluded in their study that management capability has a mediator effect on the relationship between SHRM implications and organizational performance, Kyongo (2016) came to the conclusion that management competence has a positive and significant effect on organizational performance (58.5% variation in company performance was reported).

Notwithstanding these supporting evidence from other studies, a study in Ghana by Sanda et al. (2011) on the performance of SMEs, however, established that the competences of senior managers was not reflected in the performance of SMEs in Ghana. This goes to suggest that unless other supporting conditions are present, the competence of managers may not necessarily translate significantly and positively on organizational performance. The implication of the study findings are that, the acquisition and possession of distinctive managerial and organizational competences are not in

themselves sufficient conditions for an enhanced organizational performance unless and until the custodians of such competences are given the rare opportunity of translating them into actionable performance outcomes in a more efficient and effective manner. The findings support AMO theory on the grounds that skillful, motivated employees, with opportunities to contribute and use their knowledge and competence, are better placed to perform better (Appelbaum, Bailey, Berg, & Kalleberg, 2000).

4.4.2. Hypothesis Two Results and Discussion

- H₂: Firm-level institutions moderate the relationship between management competence and PUs performance.

The moderating effect of firm-level institutions on the relationship between management competence and performance of private universities was tested. A composite index was constructed for Firm-level Institutions (FLIs) and used to determine its effect on the relationship between management competence and PUs performance. Stepwise regression analyses were used to achieve this by testing hypothesis H₂ in Figure 1 in correspondence with study specific objectives three. The stepwise regression analysis was carried out in three progressive steps. The dependent variable (PU performance) was first regressed on the independent variable (Management competence) in model 1. Next was entered the potential moderator FLIs in model 2. Thereafter, an interaction term – obtained by multiplying the composite index of management competence with the composite index of FLIs – was entered into model 3.

Inferences about hypothesis 2 were made by first checking the results of the regressions for significant changes in the R-square values which could be attributed to the interaction term. Secondly, model significance was checked using ANOVA statistics. Thirdly, the moderating effect of firm-level institutions was read off using the β -values, the t-statistics, and p-values of the displayed coefficients of models used in testing the hypothesis. Lastly, goodness of fit in the models was checked for using the F-statistics of the regression results. The results of the analysis are presented in Table 9.

	Private University Performance		
	Model 1	Model 2	Model 3
Hypothesized Paths			
Direct Effects			
MC	0.592(8.217)***	0.075(0.760)	-0.135(-0.592)
FLI		0.666(6.792)***	0.423(1.639)*
Interaction Effect			
MC*FLI			0.432(1.017)
Fit Indices			
R ² (R ² Change)	0.351(-)	0.527(0.176)	0.531(0.004)
F statistics	67.522	69.016	46.368

Table 9: Stepwise Regression Results for Firm-level Institutions Moderating Effect

Note: Effect values are standardized coefficients; values in parenthesis are t-statistics, * $p < .10$, *** $p < .001$ (two-tailed tests). MC= Management Competence, FLI= Firm-level Institutions, MC*FLI= Cross product of Management Competence and Firm-level Institutions. R² (R² Change) represents additional variance in the Dependent Variable as a result of the introduction of the Independent variable.

Source: Fieldwork, 2018

From the regression results of model 1 in Table 9 it is observed that management competence alone explained 35.1% (R-Square=0.351) of the variation in PU performance. Also, when management competence and firm-level institutions were put together in model 2 of Table 9, the results revealed that the paired variables together explained 52.7% of the variation in private university performance. This 52.7% of the variation in PU performance as explained by both management competence and firm-level institutions imply that firm-level institutions alone explained for the additional 17.6% variation in PU performance represented by an increase in R-square by 0.176 from 0.351-0.527. Hence, the addition of firm-level institutions in model 2 made a significant and positive contribution to PU performance. The observation of an increase in the F-statistic from 67.522 to 69.016 in the ANOVA table (Table 10) is an indication that the predictive power of the regression model was enhanced with the introduction of firm-level institutions to the model.

Finally, when the interaction term was added in model 3 the results revealed that management competence, firm-level institutions, and the interaction term together explained 53.1% of the variation in private university performance, indicating that the interaction term accounted for the additional 0.4% which was not a significant contribution to PU performance since the F-change of 1.034 was not significant ($p=0.311 > 0.05$). The model had goodness of fit with a 0.000 probability that the outcome was as a result of random chance ($F=46.368$, $p=0.000 < 0.05$). The observation of a decrease in the F-statistic from 69.016 to 46.368 in the ANOVA table is an indication that the predictive power of the regression model was reduced with the introduction of the interaction term to the model. Another implication of the results of model 3 is that private university performance can be expected to increase marginally by 0.432 for every unit increase in the competence of managerial staff and for every unit of positive change in the internal operating circumstances of private universities in Ghana ($\beta=0.432$, $t=1.017$). The marginal returns on PU performance, however, were increasing at a decreasing rate and therefore not significant ($p=0.311 > 0.05$), implying that the relationship between management competence and PU performance was not moderated by firm-level institutions. Hence, on the bases of the findings in Table 9, the hypothesis (H₂) that firm-level institutions moderate the relationship between management competence and PU performance was rejected since the effect of firm-level institutions on the relationship was not statistically significant.

ANOVA ^a						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22.922	1	22.922	67.522	.000 ^b
	Residual	42.435	125	.339		
	Total	65.357	126			
2	Regression	34.428	2	17.214	69.016	.000 ^c
	Residual	30.928	124	.249		
	Total	65.357	126			
3	Regression	34.686	3	11.562	46.368	.000 ^d
	Residual	30.671	123	.249		
	Total	65.357	126			

Table 10: ANOVA Statistics for Hypothesis 2

a. Dependent Variable: PU Performance

b. Predictors: (Constant), MC

c. Predictors: (Constant), MC, FLI

d. Predictors: (Constant), MC, FLI, and MC*FLI

Source: Fieldwork 2018

The findings of the study here supports the findings of Machuki et al. (2012) who in an earlier study on 'the effect of firm-level institutions on the performance of listed firms on the Nairobi Stock Exchange' reported that firm-level institutions had no statistically significant effect on firm performance. The study reported negatively not significant effect of organizational culture on return on investment, new product introduction, and market share of listed firms in Kenya. The findings are also consistent with those of Goulding et al. (2012) who established in UK that formal organizational leadership no longer determine organizational success.

In another light, the findings of the present study that firm-level institutions do not moderate the relationship between management competence and PU performance is inconsistent with the findings of other scholars who established significant and positive effects of some of the constituent elements of the construct of firm-level institutions that were investigated by this current study. Ezirim, et al., 2010; Gordon & DiTomaso, 1992; Kotter & Heskett, 1992 found OC to be significantly and positively related to firm performance. The study of Ezirim et al. (2010), for instance, reported significant positive relationship between OC and profitability, sales volume, and market share of firms in Nigeria. Also, the study of Katou (2012) established that implemented HRM policies enhanced firm performance by effecting desirable attitudinal changes in workers' satisfaction, commitment and motivation. A fairly recent study in Nairobi by Kyongo (2016) found firm-level institutions to moderate the relationship between management competence and company performance.

4.4.3. Hypothesis Three Results and Discussion

- H₃: HRM bundles moderate the relationship between management competence and PUs performance

The moderating effect of HRM bundles on the relationship between management competence and performance of private universities was tested. A composite index was constructed for HRM bundles and used to determine its effect on the relationship between management competence and PUs performance. Stepwise regression analyses were used to achieve this by testing hypothesis H₃ in Figure 1 in correspondence with study specific objective four. The stepwise regression analysis was carried out in three progressive steps. The results of the analysis is presented in Table 11.

	Private University Performance		
	Model 1	Model 2	Model 3
Hypothesized Paths			
Direct Effects			
MC	0.592(8.217)***	0.133(1.823)	-0.066(-0.379)
HRMB		0.698(9.581)***	0.400(1.622)
Interaction Effect			
MC*HRMB			0.459(1.262)
Fit Indices			
R ² (R ² Change)	0.351(-)	0.627(0.276)	0.632(0.005)
F statistics	67.522	104.175	70.313

Table 11: Stepwise Regression Results for HRM Bundles' Moderating Effect

Note: Effect values are standardized coefficients; values in parenthesis are t-statistics, ***p<.001 (two-tailed tests). MC= Management Competence, HRMB= Human Resource Management Bundle, MC*HRMB= Cross product of Management Competence and HRM Bundle. R² (R² Change) represents additional variance in the Dependent Variable as a result of the introduction of the Independent variable.

Source: Fieldwork, 2018

From model 1 in Table 11, it is observed that management competence made a significant positive contribution to PU performance with R²=0.351, F=67.522, β=0.592, and p=0.000<0.001. Also, when management competence and HRM

bundles were put together in model 2 the results revealed that HRM bundles alone explained for an additional 27.6% variation in PU performance represented by an increase in R-square by 0.276 from 0.351 to 0.627 and made a significant and positive contribution to PU performance. The observation of an increase in the F-statistic from 67.522 to 104.175 in the ANOVA section of Appendix 4.9 is an indication that the predictive power of the regression model was enhanced with the introduction of HRM bundles to the model.

Finally, when the interaction term was added in model 3 the results revealed that management competence, HRM bundles, and the interaction term together explained 63.2% of the variation in private university performance, indicating that the interaction term accounted for the additional 0.5% which was not a significant contribution to PU performance since the F-change of 1.593 was not significant ($p=0.209>0.05$). The model had goodness of fit with a 0.000 probability that the outcome was as a result of random chance ($F=70.313$, $p=0.000<0.05$). Hence, on the bases of the analysis and the findings in both Table 11 and Table 12, the hypothesis (H_3) that HRM bundles moderate the relationship between management competence and PU performance was rejected since the effect of HRM bundles on the relationship was not statistically significant.

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22.922	1	22.922	67.522	.000 ^b
	Residual	42.435	125	.339		
	Total	65.357	126			
2	Regression	40.972	2	20.486	104.175	.000 ^c
	Residual	24.385	124	.197		
	Total	65.357	126			
3	Regression	41.284	3	13.761	70.313	.000 ^d
	Residual	24.073	123	.196		
	Total	65.357	126			

Table 12: ANOVA Statistics for Hypothesis Three

a. Dependent Variable: PU Performance

b. Predictors: (Constant), MC

c. Predictors: (Constant), MC, HRMB

d. Predictors: (Constant), MC, HRMB, MC*HRMB

Source: Fieldwork, 2018

The present finding that HRM bundles had no significant moderating effect on the relationship between management competence and PU performance is at variance with the results reported by Kyongo (2016) in a similar study which examined the moderating effect of HRM bundles on company performance. Remotely, the current finding that HRM bundles had no statistically significant moderating effect is inconsistent with Subramony (2009) who in a meta-analysis established larger significant effects of HRM bundles that are positively related to firm outcomes.

4.4.4. Hypothesis Four Results and Discussion

- H_4 : The combined effect of management competence, HRM bundles, and firm-level institutions on PUs' performance is greater than the individual effect of management competence.

The combined effect of management competence, firm-level institutions, and HRM bundles on performance of private universities was tested using multiple regression analysis.

Two different regression models (1 and 2) were used to test for the effect of management competence on PU performance and the combined effect of management competence, firm-level institutions, and HRM bundles on PU performance respectively and the results presented in Table 13. The results of model 1 and model 2 were compared to find out whether in deed the combined effect of management competence, firm-level institutions, and HRM bundles was greater than the individual effect of management competence alone on PU performance.

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.592 ^a	.351	.346	.58265	.351	67.522	1	125	.000
2	.796 ^b	.634	.625	.44083	.284	47.684	2	123	.000
a. Predictors: (Constant), Management Competence									
b. Predictors: (Constant), Management Competence, HRM Bundles, Firm-level Institutions									

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22.922	1	22.922	67.522	.000 ^b
	Residual	42.435	125	.339		
	Total	65.357	126			
2	Regression	41.455	3	13.818	71.108	.000 ^c
	Residual	23.902	123	.194		
	Total	65.357	126			
a. Dependent Variable: PU Performance						
b. Predictors: (Constant), Management Competence						
c. Predictors: (Constant), Management Competence, HRM Bundles, Firm-level Institutions						

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.980	.275		3.570	.001
	Management Competence	.632	.077	.592	8.217	.000
2	(Constant)	.531	.219		2.418	.017
	Management Competence	.062	.092	.058	.668	.505
	Firm-level Institutions	.201	.128	.186	1.576	.118
	HRM Bundles	.575	.096	.593	6.013	.000
a. Dependent Variable: PU Performance						

Table 13: The Combined Effect of Management Competence, Firm-level Institutions & HRM Bundles on PU Performance
Source: Fieldwork, 2018

The analysis revealed that the predictors of model 1 and model 2 were both strongly correlated with PU performance (model 1 $r=0.592$, model 2 $r=0.796$) in Table 4.25. From model 1, it is observed that management competence alone explained 35.1% (R-Square=0.351) of the variation in PU performance. When PU performance was regressed on the three predictor variables of management competence, firm-level institutions, and HRM bundles in model 2, the three variables together explained 63.4% of the variation in private university performance. This 63.4% of the variation in PU performance is an indication that the combined variables of management competence, firm-level institutions, and HRM bundles together explained for the additional 28.4% variation in PU performance represented by an increase in R-square by 0.284 from 0.351 to 0.634. The observation of an increase in the F-statistic from 67.522 to 71.108 in the ANOVA section of Table 4.25 is an indication that the predictors in model 2 had more predictive power than the predictor in model 1.

In terms of relative contributions of the models to PU performance, model 2 made the most contribution which was largely due to the significant and positive contribution of HRM bundles ($\beta=0.593$, $t=6.013$, $p=0.000<0.05$) to the model. Both management competence ($\beta=0.058$, $t=0.668$, $p=0.505>0.05$) and firm-level institutions ($\beta=0.186$, $t=1.576$, $p=0.118>0.05$) made positive but insignificant contributions to the overall contribution of model 2. Hence, on the bases of model contributions to PU performance in Table 4.25, the hypothesis (H_4) that the combined effect of management competence, HRM bundles, and firm-level institutions on PU performance is greater than the individual effect of management competence was accepted.

The findings thus compared favourably with those of Kyongo (2016) who came to a similar conclusion. The findings validate the AMO theory on the role played by competences, opportunity for performance, and HRM bundles of practices in the performance of private universities in Ghana (Boselie, 2010; Purcell & Hutchinson, 2007). Further support is given to the RBV theory which is about how organizations can develop 'unique bundles' of human resources and technical resources/competences that will lead to enhanced firm performance and SCA (Beardwell & Claydon, 2007).

5. Conclusion

The study started out to determine the effects of management competence, firm-level institutions and HRM bundles on the performance of private universities in Ghana. The findings which were established in the study leads to the following conclusions.

Objective 1 was to identify and describe specific management competence which created competitive advantages for and impacted on the performance of private universities in Ghana. The study identified functional competence, social competence, and cognitive competence as management competences that were correlated with and had positive and significant effects on the performance of private universities in Ghana.

Objective 2 was to determine the effect of management competence on the performance of private universities in Ghana. The study findings established that management competence had a positive and significant effect on the performance of private universities in Ghana. The findings showed that the possession and use of relevant competences by managerial staffs of private universities in Ghana is crucial for performance excellence.

Objective 3 was to establish the effect of firm- level institutions on the relationship between management competence and performance of private universities in Ghana. The findings for this objective revealed that firm-level institutions had no moderation effect on the relationship between management competence and performance of private universities in Ghana.

Objective 4 was to determine the effect of HRM bundles on the relationship between management competence and performance of private universities in Ghana. The findings for this objective too revealed that overall, HRM bundles had no moderation effect on the relationship between management competence and performance of private universities in Ghana. Notwithstanding the overall effect of HRM bundles on the relationship, private universities in Ghana need to pay particular attention to their skill-mix so as to sustain positive performance.

Study objective 5 was to determine whether the combined effect of management competence, firm- level institutions and HRM bundles on the performance of private universities in Ghana was different from the individual effect of management competence on performance. The findings revealed that the combined effect size of management competence, firm-level institutions, and HRM bundles was indeed greater than the effect size of management competence alone.

Finally, even though firm-level institutions and HRM bundles were found not to have had any statistically significant moderating effect on the relationship between management competence and performance of private universities in Ghana, the two have synergistic effects on management competence in explaining performance of private universities in Ghana. Hence, private universities in Ghana still need to maintain appropriate firm-level institutions and also ensure appropriate bundling of their HR practices.

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