

**STRATEGIC CHANGE AND EMPLOYEE PERFORMANCE: THE  
MEDIATING ROLE OF HUMAN CAPITAL**

**A CASE STUDY OF ANGLOGOLD ASHANTI – OBUASI GOLD MINE**

KNUST

**BY**

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## DECLARATION

I hereby declare that this submission is my own work towards the Masters of Business Administration and that, to the best of my knowledge, it contains no material previously published by another person or material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

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## **DEDICATION**

This research is dedicated to my dear wife, Mrs. Philomina Ofori Broni who believed in my ability to achieve this goal and supported me.

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## ABSTRACT

The research aimed at providing a model for determining the mediating role of human capital in the link between strategic change and employee performance of AngloGold Ashanti, Obuasi Gold Mine. The study proposed and examined human capital as a major missing mechanism of strategic change to effect employee performance of the company under study. Mostly the intent of the strategic change projects of the company under study to create a new company culture and employee performance were not fully actualised. This is because the needed skills, knowledge and experience of the change agents, project team and employees were low. Using a sample of AngloGold Ashanti Ltd – Obuasi Gold Mine, empirical evidence was obtained which supports the view that this mediating effect is present. At the time of study, the total employee of the Obuasi Gold Mine was 201 and this was used as the population for the research. Out of this population of 201, sample size of 153 was used. Data was collected from different functional groups of the organisation of study. The research is quantitative in nature and survey method was used by utilising self-administered questionnaire. Ordinary Least Square Regression Analysis was used for the analysis. Among other tests, Sobel test was used to test mediation. The study indicated that there is a full mediation of human capital on strategic change and employee performance. The findings buttressed the fact that the strategic change and human capital have positive impact on employee performance. The results of the study present managerial strategies which can be used in organisational change to improve performance. The study will empower the organisations to know the right decisions to roll out before they begin improvement projects such as change. The research also adds to the growing literature on strategic change and human capital.



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# **CHAPTER 1**

## **INTRODUCTION**

### **1.1 Background of the Study**

Dealing with such a complex and dynamic environment of business today, organisations need experienced, skilled, and knowledgeable people with well – developed leadership abilities and acumen in effecting strategic changes which can lead to employee performance. This study addresses how strategic change influences on human capital and positively relate to employee performance using a case study of AngloGold Ashanti, Obuasi mine.

The Obuasi Mine has been in production for more than 117 years. In 2014, due to gradual operating losses since 2004, the mine commenced a 24 – month Limited Operating Phase (LOP) while another team started a feasibility study to reform and reposition the organisation. Limiting production to implement new operating systems, an approval was sought from the Minister of Lands and Natural Resources in November, 2014.

The Obuasi mine site is extensive and one of the largest mine in the country. The mine is in close vicinity to Obuasi town. The mine is almost surrounded with the communities. Current operation concentrates on the southern area of the mine which comprises access shafts, support and waste disposal facilities, and the South Processing Plant, at a capacity 2.2 million tonnes of ore per year. Though the mine is going through operational challenges, it still has high quality and largest ore body with Mineral Resources of 24.6 Moz of gold and Ore Reserves (Proven and Probable) of 5.26 Moz per the Joint Ore Reserves Committee (JORC Code) (AusIMM, 2004).



The mine having conducted a feasibility study, postulated a Life of Mine plan with an annual production rate in excess of 500,000 oz of gold and a mine life of 16 years.

Obuasi Gold Mine, over the years has undergone many changes. Among the strategic change projects are Turnaround, Transformation, System for People, Business Process Framework, Engagement for Optimum System (EOS) and Project Renaissance (Project R). With the objective of bringing the mine to a level where organisational performance is actualised through the aforementioned strategic changes, had not been materialised. All these change projects were costly. This has necessitated this study into why strategic change influences employee performance through the mediating role of human capital.

The research on the relationship between strategic change and performance has been propounded in some literature. In general, literature suggests that strategic change improves performance by employing technological change, structural change, organisation development, leadership change and human resources policy change. Carman et al., (2010) investigated the mediating effects of culture types and culture strength in relationship between change strategies and performance (Examples, patient satisfaction, and care quality) in the context of a quality improvement intervention. In a sample of ten hospitals, they found that clan and hierarchical cultures mediated relationships with outcomes, the former having a positive effect and the latter negative.

The focus of the research covers three reasons. The role of human capital in employee performance is studied to be essential in organisation (Crook et al., 2011; Schultz, 1993). Human capital concerns with developing and adding value to the existing business operations and eventually increasing profitability based on the stock of human capital (Brown et al., 2007; Mosavi, 2012).



Other studies also propose that human capital plays a vital role for improving strategic change (Lunenborg, 2010 and Tschirky, 2011). The literature on strategic change, human capital and employee performance were reviewed in this research. The three variables were thus linked to create a model. The model was verified using a sample of 153 employees out of the 201 population of AngloGold Ashanti Ltd, Obuasi Mine. The findings were shown with practical applications to managerial strategies.

## **1.2 Problem Statement**

Factors of production over the year have dwindled and will certainly be scarce. For this reason, organisations thrive to strategize on how they can accomplish exceptional yields or payoffs on scarce resources. Porter (1980) contends that expanded rivalry and environment turbulence has prompted the requirement for public organisations to look for ways and method for getting to be beneficial and handle human resources issues to protect the employees and the organisation image. It is this notion that companies spend on strategic change projects.

Having put huge sums of money in strategic change projects, most often than not turns out to be an ugly point of reference. This affects both employees and company at large negatively. Particularly when the employees have experienced on change to another and the change objectives are not met, they thus become resistive to subsequent or future changes.

This is apparent in the mining industry. AngloGold Ashanti – Obuasi mine in its effort to be a leading mining company in the world has over the years embarked on numerous strategic changes within the business. These include Turnaround project, Obuasi Transformation project, Business Process Framework, System of People and engagement for Optimum System. Change is effective and deliver employee performance when the right decisions are made timely, right human capital are used in



planning, executed in the right environment and right human capital are at the receiving end and monitored. It is undeniable that most of the strategic change projects have not succeeded and the few ones that succeeded did not last. On the other hand, if change is strictly done at the management level without translating the content to a simple language or meaning to the low level operational employees on the hierarchy, the change may eventually fail. The frequent change of project management and inclusion of 'green' employees in deploying change project negatively affect the success of change. These gaps were evident in most strategic changes of the company under which this research was conducted. Among the strategic changes that were greatly affected are Business Process Framework (BPF), System for People (SP) and Engagement for Optimum System (EOS). These three change projects were coined by the corporate leaders of the company as Project One. The overall intent of these change projects was to create a new company culture and employee performance. This intent was not fully actualised because the needed skills, knowledge and experience on the change agents, project team and the employees on the receiving end of the change were low. Though the concept of the strategic change projects was good, but the impact on company's performance was low. It is for this reason that this research seeks to address human capital as having a mediating role of impacting on strategic change and employee performance.

This study will further offer framework for decision making by managers when embarking on strategic change projects. The study was intended to fill identified gaps in knowledge by seeking answers to the research questions.

The study suggests that human capital influences on strategic change and employee performance.



### **1.3 Objectives of the study**

#### **1.3.1 General Objective**

The study mainly seeks to examine the mediating role of human capital in the strategic change and employee performance linkage in AngloGold Ashanti (AGA), Obuasi Mine.

#### **1.3.2 Specific Objectives**

1. Examine the effect of strategic change on the employee performance of AGA, Obuasi Gold Mine.
2. Examine human capital at AGA, Obuasi Gold Mine.
3. Examine the effect of human capital on the employee performance of AGA, Obuasi Gold Mine.
4. Examine the indirect effect strategic change on the employee performance of AGA, Obuasi Gold Mine through human capital.

### **1.4 Research Questions**

The research questions are as follows:

1. How does a strategic change impact on employee performance?
2. How does human capital impact on employee performance?
3. How does strategic change impact on human capital?
4. What is the indirect effect of strategic change on the employee performance of AGA, Obuasi Gold Mine through human capital?

### **1.5 Significance of the Study**

This study of supporting strategic change and human capital will help in augmenting productivity and viability in business, and building trust in workers of organisations. It will enable managers of organisations to invest in human capital in order to actualise



objectives of strategic change. The study will empower the mining industry to know the right decisions to roll out before they begin improvement projects such as change. This will further increase their performance and make them stand at competitive edge.

The study will also be gainful in adding to the body of knowledge on strategic change decisions and human capital development. It will sensitize the management of companies of the role of human capital on strategic change and employee performance. It will form the basis for further research into the linkages between strategic change, human capital and performance.

### **1.6 Scope of the Study**

AngloGold Ashanti (AGA) – Obuasi Gold Mine, the company under which this study was conducted has been in existence and operation for more than hundred years. It has gone through a lot of changes both incremental and transformational. The research zeroed in on relationship between strategic change, human capital and employee performance by assessing AGA’s strategic changes undertaken between 2010 and 2014 for convenience and accurate data. The scope of the research is limited to Obuasi Gold Mine operations and accordingly the employees were used as the respondents.

### **1.7 Overview of Methodology**

The primary source of data was collected from employees of AngloGold Ashanti, Obuasi Gold Mine. Questionnaires were administered to 153 employees for this research. Currently, the number of AGA – Obuasi mine employees is reduced to 201, comprising management staff, senior staff and junior staff. It was this population to which the sample was selected from. A sample size of 153 was selected from 201 employees. Data collected was quantitatively analysed. Descriptive statistical tools such as Statistical Package for Social Sciences (IBM SPSS version 20) and LISREL 8.5 were employed for the analysis and shown in tables.



## 1.8 Limitations of the Study

- *Inadequate Timing* - the results of this study would have been exceptional representation of all organisations, if numerous organisations were utilized however the constrained time for submission could not permit that. Hence only Obuasi Mine site was utilized.
- *Confidentiality Clause* – where some management staff have consented to non-disclosure agreement as part of their job contract not to make known private and management information of the organisation into the general public despite the reasons for which it is being used for. For that matter, such staff usually decline taking an interest in academic and realities discovering studies. The bureaucratic framework and hesitance of some management staff to uncover information was inescapable and a downside to the study.
- *Unresponsiveness* with respect to respondents to a few inquiries was a downside to the research. Some staff members were hesitant to answer questions while others were not ready to give data. This was especially so in the mines. They were generally not disturbed on the premise that there was no immediate effect on their vocation.

## 1.9 Organisation of the Study

The research was divided into five chapters. The introduction is the first chapter which covered background of the study, research problem, research objectives, significance of the study, scope of study, overview of methodology, limitation and organisation of the study. The second chapter discussed the literature where previous works of other researchers on similar work are reviewed to identify gaps and opportunities. The chapter three touches on methodology where research design, sources of data, unit of analysis, population or sample frame, sample size, sampling technique, data collection



instrument, pilot testing, data analysis and brief profile of the case study were elaborated. The fourth chapter focused on data presentation, analysis and discussions. The final chapter which is the fifth chapter concluded the study with summary of findings, conclusion and recommendations.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.0 Introduction**

The chapter discusses the theoretical framework and empirical review that are related to the study. The theoretical framework looks at the literature on the study topic. The empirical review on the other hand focuses on the review of previous work done related to the study.

#### **2.1 Theoretical Framework**

##### **2.1.1 The Concept of Change Management**

Change comes either by a response to an opportunity or gap with an establishment or institution linking to its interior and exterior motivation. Change is an unavoidable phenomenon in every organisation whether at the strategic level or operational level. Without controversy, the essence of strategic change to organisations makes it a key driver at the leadership level in decision making. Most often than not, change is impulsive because it can be initiated by any little issue. Change can originate from nature, method and scope which affects every organisation.

No establishment or group in our world today, huge or small, nearly alternately worldwide may be used to change. To adapt to new industrial, viable, and demographic forces, pioneers in each division need meaning to in a far-reaching way change those approach their organisations do business. These change deliberations have paraded



under a significant number of standards – quality improvement, redesigning, reorienting, mergers and acquisitions, turnarounds (Kotter, 1995). To obtain the right business target, any change should have the right process to follow by way of acknowledging the technical and people side. The objective is to help the individuals impacted by the change to be successful by building support, addressing resistance, developing the required knowledge and ability to implement the change, and ultimately making successful personal transitions resulting in the adoption and realisation of change.

A survey of the literature on business change management reveals several pre – requisites for successfully implementing business change such as conformity to company objectives, employee and department participation in the change process, customer input and reasonably balancing risk taking with cost benefit analysis, monitoring progress, and communication regarding the change process. In other words, how change is implemented is an important determinant of success. Explicitly, the vital features of the change process summarised above are expected to affect the company's capability to change its products processes, and its organisational structure and culture (Guimaraes and Armstrong, 2008).

Change management is one of the greatest hurdles in which a business may want to overcome. Getting an organisation to actualize strategic change is hard – supporting that change is considerably harder. It is a deliberate approach in bringing about substantial changes for living up to individuals' needs to advance the business easily (Cameron and Green, 2004). At the point when the need for change emerges, organisations have no alternative, yet to respond or else they will lose their competitiveness in the business sector.



Burnes (2004) postulated that change management may aid a scope of projects, including the execution of new process, new frameworks, upgraded structures, or innovation – institution new working culture or set of values in a specific area. It is clear that new frameworks or systems will achieve some level of progress in an organisation; and thus, new business framework undertakings ought to be dealt with as change.

Numerous organisations put critical exertion into their methodology advancement process, just to be baffled with the outcomes that do not meet their intended target. Among the significant changes organisations embark on are downsizing, mergers, new software, management systems, etc. Such changes normally create workforce vulnerability, anxiety, and resistance, which decrease general work spirit and performance. Change has gotten to be critical to institutional survival, achievement, and long haul suitability (Birnbaum, 1988). Yet most change activities don't succeed and last (Senge et al., 1999). In any case, it is one thing to deliver a transitory change and something else to support it. For organisations to stay in business, they need to change, so as to keep in parity with the environment. In order to stay in business, and keep up the focused edge in an evolving business domain, overseeing change should be the prime competency in which managers must have. At any point in time, supervision of change is more necessary than previous effort (Nadler and Tushman, 1988). It is equally certain that while the future might be questionable and obvious that organisations and managers without the know-how to react effectively to the quickening changes would have no future (Harper, 2004). Kotter (1996) contended that the number of critical or traumatic changes in organisations has become more in the recent decades. Organisations attempt to enhance with the assistance of change endeavours, for example, new framework usage, change projects and change champions. Nonetheless,



in most cases the intended change project is exasperating, and the changes don't work out as they were proposed to (Kotter, 1995). Kotter posited the demerits of change that at whatever point human groups are compelled to acclimate to shifting conditions, pains is ever-present; and he goes ahead to say that managers and organisations additionally commit errors in creating and executing the change projects. Kotter (1995) objected that a noteworthy number of the missteps made are avoidable. This study seeks to redress some of these shortcomings in businesses implementing strategic change.

### **2.1.2 Deferring Views of Change Management**

Lewin (1947) established a simple change model having three components namely, unfreezing; moving; and freezing. The model could be expounded as moving from terminating the old; through neutral zone where the change occurs, to the new beginning with emphasis on the transition (Bridges, 2003).

Kotter (1996) expanded the three steps to eight steps or stages by providing greater details for the moving stages or neutral zone. These additional strategies include creating a change vision and strategy, communicating with stakeholders, and generating short-term wins as a starting point for longer-term changes. A Practice Guide describes the Bridges and Lewis change models as a psychological transition, and the Kotter change model as a process (PMI, 2013a). These change definitions and models apply across many contexts. For example, individual change management is the application of these models at an individual level, such as a project leader coaching a team member to improve performance.

### **2.1.3 Definition and Description of Strategic Change**

Strategic change is concerned with organisational transformation that deals with broad, long-term and organisation – wide issues and it is about moving to a future state, which



has been defined generally in terms of strategic vision and scope (Armstrong, 2006). Fiss and Zajac (2006) pointed out that strategic change is the alternation in an organisation's alignment with its external environment. Strategic change covers the purpose and mission of the organisation, its corporate philosophy on such matters as growth, quality and innovation and values concerning people, the customer needs served and the technologies employed. This leads to specifications of competitive positioning and strategic goals for achieving, maintaining competitive advantage and product- market development (Armstrong, 2006).

Change can emerge through a planned approach. Planned change is deliberate, a product of conscious reasoning and action. In contrast, change sometimes unfolds in an apparently spontaneous and unplanned way (Lewin, 1947). This type of change is known as emergent change (Burnes, 2009). The magnitude or scale of change can range along a continuum from small – scale discrete change (incremental) to a large – scale transformation. Incremental change aims to provide improvements. In contrast to incremental change, transformational change aims to redefine an organisation's strategic direction, form, cultural assumptions and identity. This kind of change is also referred to as 'strategic', 'radical' or 'revolutionary' (Kanter et al., 1992; Weick and Quinn, 1999). An alternative position to viewing change as either incremental or transformational is punctuated equilibrium. This theory posits that organisations evolve through periods of incremental change, and periods of transformation, in which the deep structures of the organisation are fundamentally altered (Gersick, 1991). Organisational change can be focused on strategic or operational. Pettigrew et al. (1992) distinguished between operational change as small – scale and relatively unimportant and strategic change as major and important structural changes. The level of the change process can



be at an individual, group, team or organisational level. The targets for this dimension of change tend to be behaviour, skills, knowledge and attitudes. Although the three levels are related, changes affecting each require different strategies and tactics.

Similarly, De Wit and Meyer reemphasized that strategic changes have an impact on the way the firm does business (its business systems) and on the way the organisation has been configured (its organisational system).

Strategic change includes restructuring, mergers and acquisitions. For example, AngloGold merged with Ashanti Goldfields Corporation to form AngloGold Ashanti Ltd in 2004. This strategic change made the two companies enjoy the strength and carried the weakness of each other which in turn brought about synergies.

De Wit and Meyer (2004) acknowledged a tendency amongst commentators to depict revolutionary or radical change as strategic and evolutionary or incremental change as operational. However, Burke (1992) suggests that 'more than 95 percent of organisational change are evolutionary'. Other writers point out how the various approaches can be used in combination. Kotter (1996), for example, sees strategic change as comprising a series of large and small projects aimed at achieving the same overall objectives but which are begun at different times, can be managed differently and can vary in nature. This is also identified by Kanter et al. (1992) when discussing what they term 'long marches' and 'bold strokes'. They argue that bold strokes often have to be followed by a whole series of small – scale changes over a more extended time scale (long marches) in order to embed the changes brought about by the bold stroke. Consequently, as Burnes (2009) points out, when considering strategic changes, leaders and managers should be aware that they may have different elements at different levels, and at different times.



#### 2.1.4 Types of Strategic Change

According to Johnson and Scholes (2008), strategy development is incremental in nature. It builds on prior strategy; it is adaptive in the way it occurs, when only occasional more transformational change. Balogun and Hailey (2007) developed this change further to identify four types of strategic change as shown below. These have implications for how change might be managed. Arguably, it is beneficial for change in an organisation to be incremental since such change should build on the skills, routines and beliefs of those in the organisation. Change is therefore more likely to be understood and win commitment. However, a big bang approach to change might be needed on occasions, for example if an organisation faces crisis or needs to change direction fast. In terms of the extent of change, the question is whether change can occur within the current culture as realignment of strategy. In addition, does it require culture change? This is more transformational change. Combining these two axes suggests four types of strategic change:

1. **Adaptation** is change that can be accommodated within the current culture and occur incrementally. It is the most common form of change in organisations.
2. **Reconstruction** is change that may be rapid and involve a good deal of upheaval in an organisation, but which does not fundamentally change the culture. It could be turnaround situation where there is need for major structural changes or a major cost – cutting programme to deal with a decline in financial performance or difficult or changing market conditions.
3. **Revolution** is change that requires rapid and major strategic but also culture change. This could be in circumstances where the strategy has been so bounded by the existing culture that, even when environmental or competitive pressures



might require fundamental change, the organisation has failed to respond. This might have occurred over many years and resulted in circumstances where pressures for change are extreme - for example, a takeover threatens the continued existence of a firm.

4. **Evolution** is change in strategy that requires culture change, but over time. It may be that managers anticipate the need for transformational change. They may then be in position of planned evolutionary change, with time in which to achieve it. Another way in which evolution can be explained is in terms the idea of the learning organisation continually adjusts its strategy as the environment changes. The sort of cultural analysis can be useful as a means of considering whether the change envisaged could be accommodated within the bounds of the culture as it is, or whether it would require a really significant cultural shift. For example, a business may launch new products without requiring fundamental changes in the assumptions and beliefs of the organisation.

#### 2.1.5 Differing Context of Strategic Change

The approaches to managing change can be different due to their context. Balogun and Hope Hailey (2007) built on this point to highlight important contextual features that need to be taken into account in designing change programmes. Here are some examples of how the contextual features might require different approaches to change:

1. **Time:** How much time does the organisation have to achieve this change?  
For example, it is in crisis?
2. **Scope:** is the required outcome realignment or transformational? Does the change affect the whole organisation or only some part of it?



3. **Preservation:** To what extent it is essential to maintain continuity in certain practices or preserve specific assets?
4. **Diversity:** is for example, the staff group concerned diverse or relatively homogeneous in terms of values, norms, attitudes? Are there many sub – cultures or national cultures within the group?
5. **Capability:** How capable or competent is the organisation at managing change? How much change has the organisation and its staff previously experience?
6. **Capacity:** how much cash or spare or spare human resource is there to divert towards the change?
7. **Readiness for change:** are staffs aware of the need for change? How much support is there for the change?
8. **Power:** where is power vested within the organisation? Who are the vital stakeholders whose support must be canvassed and secured?

It must therefore be noted that not all organisational features will be of equal importance. This is why the framework is called the kaleidoscope as its configuration of features will constantly shift according to the organisation being analysed.

#### **2.1.6 The Capabilities of the Change Agent**

According to Julia Balagun and Veronica Hope-Hailey (2003), Change agents need to develop the following capabilities:

- **Analytical skills** – the way they need to be able to dig deep into an organisation, to understand its culture and the motivations of its staff, to develop a full and holistic picture of the organisation concerned.



- **Judgement** – being able to discern what are the most critical features that are revealed by the contextual analysis and prioritise or weight those features in terms of how critical they are to the change process.
- **Implementation skills** – knowing which interventions to make in a change situation and in what order to apply them.

In addition to the above managerial skills the change agent needs the following personal competencies:

- **Ability** to handle complexity and sensitivity: Change agents need to be able to ‘see the big picture’ yet also have the maturity to appreciate the context and the impact of action.
- **Self – awareness:** The capacity to understand one’s own prejudices, preferences, and experiences. The point is that for any change agent, an awareness of which perspective predominates within their own mind will make them aware of how they will view change. The skill is for the change agent to check that their perspective is not in danger of becoming a prejudice. This attribute of self – awareness is an important ability for change agents and its existence within any manager illustrates a maturity of understanding of change, organisation, and self.

### 2.1.7 Definition and Discussion of Human Capital

#### Human Capital Theory

The origin of human capital goes back to emergence of classical economics in (1776) and thereafter developed a scientific theory. The idea of investing in human capital was



first developed by Adam Smith (1776), who argued in the *Wealth of Nations* that differences between the ways of working of individuals within different levels of education and training reflected differences in the returns necessary to defray the costs of acquiring those skills. The economist, Elliot (1991) also developed a theory in human capital. He is concerned with human capital in terms of the quality, not quantity, of the labour supply. After the manifestation of that concept as a theory, Schultz (1961) recognised the human capital as one of the important factors of national economic growth in the modern economy (Dae – bong, 2009).

The theory argues that a person's formal education determines his or her earning power. Human capital theory holds that it is the key competences, skills, knowledge and abilities of the workforce that contributes to organisations competitive advantage. It focuses attention on resourcing, human resource development, and reward strategies and practices. According to Human Capital Theory, education is an investment because it is believed that it could potentially bestow private and social benefits. Human capital theorists believe that education and earning power are correlated, which means, theoretically, that the more education one has, the more one can earn, and that the skills, knowledge and abilities that education provides can be transferred into the work in terms of productivity (Dae – bong, 2009).

Human capital is 'generally understood to consist of the individual's capabilities, knowledge, skills and experience of the company's employees and managers, as they are relevant to the task at hand, as well as the capacity to add to this reservoir of knowledge, skills, and experience through individual learning' (Dess & Picken, 2000: 8).



From the aforementioned definition, it becomes clear that human capital is rather broader in scope than human resources. The emphasis on knowledge is important here. The human capital literature has moved beyond the individual to also embrace the idea that knowledge can be shared among groups and institutionalised within organisational processes and routines (Wright et al., 2001).

‘The concept and perspective of human capital stem from the fact that there is no substitute for knowledge and learning, creativity and innovation, competencies and capabilities; and that they need to be relentlessly pursued and focused on the firm’s environmental context and competitive logic’ (Rastogi, 2000: 196).

According to Omolo (2007), the concept of human capital has played an important role in the neoclassical analysis of labour markets. This is in particular in regard to the role it plays in wage determination. It has also come to dominate the economic analysis of the education. The emphasis on human capital in organisations reflects the view that market value depends less on tangible resources, but rather on intangible ones, particularly human resources (Kulvisaechana, 2006).

Capital is a type of asset that allows a business to make more money or otherwise further its goals. Examples of capital include plant, tools and equipment. Human capital is the sum total of a person’s knowledge and skills that the company can use to further its goals. For example, Dave’s company needs people with knowledge and skills in engineering, computer software design, manufacturing, finance, law, accounting and management, just to name a few.

Muhammad Arsalan Shafique Awan and Naintara Sarfraz (2013) postulated that Human capital investment is basically a process of developing employees by providing



them education or training or both. Education usually includes reimbursement of employees for formal education in universities and colleges. Education is used to develop employee's skills in areas like finance, accounting, or production. Training however, is conducted by supervisors working on the job with employees by teaching them specific functions and providing them knowledge to complete a certain task more effectively and efficiently.

### **Importance of Human Capital**

Until we develop artificial intelligence, we pretty much need human capital to accomplish anything in the world today. In fact, it takes human capital to create some other forms of capital. While a machine may eliminate the need to have hundreds of production workers make stuff, it still took human capital to design and build the machine. And as we move deeper and deeper into a knowledge-based economy that depends on information, knowledge and high – level skills, human capital will become increasingly important. Dave's Smartphone Company is an example of a knowledge – based business where information, data and knowledge is paramount for success.

It can therefore be concluded that Human capital is one of the most important factors that can contribute towards economic growth of a country. The contribution of an organisation in its human capital can greatly benefit the firm and the individuals working in that firm. It helps in development of employees to be more productive which help the firm to perform better.

Human capital presents the image of the background knowledge of individuals grouped in the organisations composite ability to disclose the optimum solution from its distinct employees (Bontis, 1999 & 2001). The sum of employee's skill, abilities, experience and knowledge is known as Human Capital (Malone



and Edvinsson, 1997).

Awan et al (2013) made it clear that performance is the key factor for success of every organisation and every organisation want to perform better than its competitors so it can keep its competitive edge and share of the market. Among other factors of performance, Human capital investment is one factor that can have an outcome on the performance of both employees and the organisation. Thus it can be crucial for managers and employers to invest in Human capital so they can achieve the level of performance they desire and keep up with the rapidly changes environment of the market.

Mark Cutifani, the former Chief Executive Officer (2011) said that he lives by a simple leadership philosophy: the business is ours to manage and the future is ours to create. Taking these starting points, the single most important thing to understand about our business is that it is not about grades, processing plants and headgear. It is actually about people: People are the Business and Our Business is People.

#### **2.1.8 Employee Performance**

Louise James (2012) defined that high performance as when all the parts of an organisation work together to achieve great results with results being measured in terms of the value we deliver to customers. These parts are:

- **Strategic objectives** – provide the direction in which everyone within the organisation should head. They provide focus and ensure we are all working towards the same end.
- **Organisational structure** – this represents the form in which the organisation will deliver its services. The structure must support the strategy just as the strategy must have regard to the structure. For instance, an on – line delivery



strategy will not be successfully executed unless the organisation has on – line capabilities.

- **Business performance measures** – represent the measures by which each area of the organisation will be assessed. There is no single set of measures that may be applied across all organisations. In order to be relevant and of use to the organisation, the measures must be determined in light of the organisation’s goals and the strategies put in place to achieve those goals. It is this measurement process that will direct behaviour more than any other system that may be put in place. Further, the information must be easily obtainable – in a timely manner. This requires the management information systems to be developed to collect the right data in an efficient way.
- **Allocation of resources and processes** – relates to the decision making approach that takes place within the organisation. It is how the organisation goes about deciding where to apply its scarce resources – including money, time and effort – in order to achieve its objectives.
- **Values, culture and guiding principles** – this part is unique to the organisation. If the organisation was human, this would be its DNA. The culture must support the achievement of the strategic objectives in order to draw out the “best” of people. The values and guiding principles must support the purpose (remembering from our earlier definition that an organisation is an organised group of people within a particular purpose) for achievement of desired outcomes.
- **Reward structures** – must reinforce the culture and direct efforts to support the achievement of strategic objectives. Reward structures may include various



forms – monetary (for example, bonus on achievement of short term goals), promotion (recognition of having acquired certain skills), celebration event (recognising and congratulating team efforts), leave of absence / day off (recognition and ‘thank you’ for a job well done), and so on.

All these parts are inter-related and a change to one will impact one or more of the others. Similarly, one poor performing part will potentially negatively impact the others and lead to less than successful results. So, what is employee performance?

The authors Lebans and Euske (2006) illustrated that performance is a set of financial and nonfinancial indicators which offer information on the degree of achievement of objectives and results.

Gibson (1990) put forward that performance is measured by using productivity, job satisfaction, turnover and absenteeism.

According to Mathis and Jackson (2009), performance is associated with quality and quantity of output, the timeliness to which the output was delivered, attendance on the work, efficiency and effectiveness used to complete the task.

Employee performance is when a task is completed successfully by an individual instructed by organisation in accordance with acceptable standards using the given resources effectively and efficiently, Tinofirei (2011).

Based on the ideas gathered from above, it can be concluded that employee performance deals with right timelines, achieving targets with limited resources and doing the right work as given by the employer.



## **2.2 Empirical Review**

### **2.2.1 Strategic Change and Performance**

Strategic change has a wide range of research around it. Change as a broad scope touches on technological change, structural change, and Human Resources policy change, leadership change, organisation development etc.

According to Vithessonthi et al., (2001), there is an inverted U-shape for the relationship between strategic change and firm performance. They discovered that largely more and less strategic changes are estimated to be decreasing the performance of a firm. Nonetheless, they found out that employing the moderation of organisational learning may change the prediction of strategic change to performance.

Goll et al., (2007) used time series statistics with fixed effects in their study to assess the link between knowledge capability, strategic change and firm performance. The study resulted that knowledge capability has association with change in strategy and having positive impact firm's performance. Their research also concluded that environment moderates strategic change and firm's performance.

Downsizing strategy which is also a strategic change feature is a solution to firm's performance when there are notable capabilities in place (Philip et al., 2013). Their findings indicated that a responsible downsizing strategy can positively influence firm's performance.

According to the authors, downsizing is usually undertaken as a strategic, proactive response with the aim of improving organisational effectiveness. The intent of downsizing may also involve mergers, acquisitions, sell-offs or restructuring (Cameron et al., 1993).



Staying at a competitive edge and surviving in business come when the organisations realise and react positively to changes that occur on the environment. Most of the strategic management researches say that for a firm to be successful, it changes its strategies to achieve better fit with the environment (Cheng et al., 2007).

Burke et al., (1992) concluded that change can come in process and content, with focus on transformational and transactional factors. Transformational change happens as a reaction to the periphery of the environment and positively impacts organization's leadership, culture, mission and strategy. The transactional factors as a result affect the organisational structure, systems, managerial leadership practices, and environment. Hence, the two main factors together will influence motivation, which also influences performance.

In addition, some studies concluded by focusing on the relationship between some of the characteristics of a Strategic change and performance suggest that those features have direct effect on performance.

Summarizing previous arguments, the following hypothesis was formulated:

**Hypotheses 1:** The adoption of a Strategic Change is positively associated with firm's performance.

### **2.2.2 Human Capital and Performance**

Awan et al (2013) made contributions in the field of human capital by focusing on Pakistan's telecom sector. Having use quantitative analysis to measure different hypotheses, the finding was that human capital investment has strong significant influence on firm's performance. In addition, the research showed that employees' satisfaction mediates human capital and firm performance. It showed that as human capital increases, organisation's performance also increases. The researchers finally



recommended that organisation should do everything possible to develop the skills of their workers which will in tend facilitate the achievement of objectives effectively and efficiently.

Nzuve and Bundi (2012) in their research, using Kenya Commercial Banks studied the relationship between human capital practices and performance. The research established that human capital management practices are adapted to an average level in most of the Commercial Banks. The research concluded that human capital management practices have positive impact on performance.

Olufemi (2009) focused on contemporary Nigerian Banking Industry to study the relationship between human capital development practices and organisational effectiveness.

Olufemi (2009) conducted a study on human capital development practices and organization effectiveness: A focus on the contemporary Nigerian Banking Industry. It was then concluded in the research that human capital development practices positively correlate with organisational effectiveness.

Josan (2013) studied the relationship between human capital and organisation effectiveness using content analysis. She postulated that the new economy called knowledge economy emerging from globalisation has two key variables, namely training and education. It was found that investment in human capital is strongly influence not only with productivity but also profitability. The study showed that as training of the workers increased, the wages of increased.

Amin et al (2012) analysed the impact of human capital investment on the economic growth of Pakistan. Using a secondary data and analysed through correlation, the



research indicated that primary enrolment rates, higher education enrolment rates and life expectancy were positively correlated with economic growth.

Bontis and Serenko (2009) analysed precursors and consequences of human capital model in the financial services industry of Canada. Using 396 workers of credit unions, closed ended questionnaire were administered. Factor analysis and independent t –test were used to investigate and found that knowledge management is essential to the success of organisation. Moreso knowledge sharing and training cannot be taken out in organisation building.

Salim et al (2004) studied Egyptian software companies and examined the relationship between human capital and employee performance. Out of total 107 software companies, 38 were sampled and only 16 companies responded. Using correlation and regression to analyse data, the study concluded that intelligence, creative ideas, ambition and immutability of the workers in software firms influence the performance of the organisation.

Oforegbunam and Okorafor (2010) conducted a study on the impact of human capital development on performance of Small and Medium Scaled Enterprises (SME) in the south-eastern region of Nigeria. They used educational institutions, on the job training and training programmes by workers as main components of human development capacity. To quantify their data, they used likert 5 point scale and analysed it with multiple regression. It was then concluded that as the on the job training enhances human capital in SME the performance of SMEs is also improved.

Magoutas et al (2009) conducted a study to determine the relationship between human capital and growth rate of firm performance. For a firm to stand at a competitive edge



in modern business, one of the key tools is human capital. The results indicated that human capital considerably influences the firm's growth rate.

It is therefore noteworthy that workers whose capability and productivity level have increase are as a result of their investment in training and education development.

This can prove the higher returns of human capital investment.

Thus, the second hypothesis of this paper suggests that:

**Hypothesis 2:** Human Capital is positively associated with firm performance.

### **2.2.3 Strategic Change and Human Capital**

The productivity of organisation can rise through strategic change by the use of new technology and effective use of skilled employees (Caroli et al., 2001). Human Resources guiding principles are used as a source for development of work practices and people capability. This then helps how the organisation should be run (Armstrong, 2006). Nevertheless implementation of human resources policies in the organisation is exposed to series of problems because of resistance to change (Gupta, 2008). Apparantly, the changes in organisations happen by using people and in tend affect people.

Aragon et al., (2003) said in their work that human capital and organisational knowledge are paramount in organisational building and making it stand at a competitive edge.

Overcoming change burden comes by first developing the required talent, instituting the right project management which emphasize on the organisation's (PMI, 2014).

Irrespective of size or form of an organisational change, agents for change inclusion cannot be ruled out. This is to say the quality and success of change largely depend on



the capability of the change agents. Hence there is always good relationship between the leadership and change agents (Lunenburg, 2010).

Those who carry out, champions and spearhead change are called Change agents. They can be internal or external. The internal ones are project managers, employees, etc. A lot of innovative companies equip the skills, knowledge and competence these internal change agents to lead (Tschirky, 2011).

Corporate leaders are using work reengineering, workforce redesigning, restructuring organisational charts, revamping work processes and employing the new technologies as a response to the increasing global competition. As a result, the changes have significant influence on human resources management and proper functioning of human resources activities (Lawler III et al., 2012).

In summary, the third hypothesis was proposed:

**Hypothesis 3:** The adoption of a Strategic Change is positively associated with human Capital.

## **2.3 Model of the Study and Hypotheses**

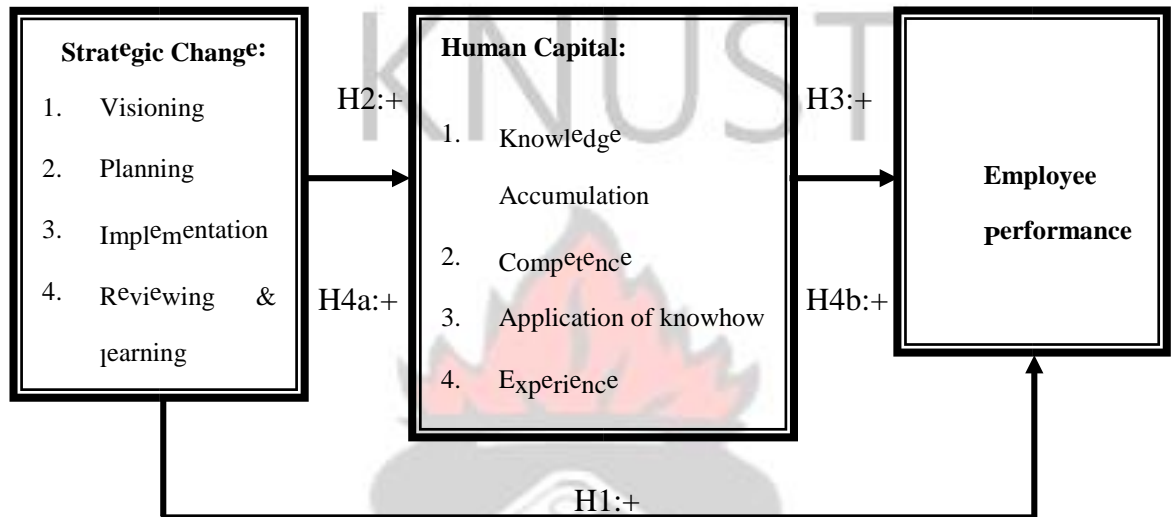
### **2.3.1 Conceptual Framework**

Within the conceptual framework, the employee performance is the dependent variable and the strategic change is the independent variables whereas the human capital serves as mediating variable. The variables are shown in the figure below.

The study suggests a framework that there is a mediating role in strategic change and employee performance. The variable that mediates this role is human capital as researched in this study. The strategic change in an organisation influences the human capital which is the skill and knowledge set of the organisation as a result drive the



employee performance. Magoutas et al (2009) assessed the relation between human capital and growth rate of firm performance. Caroli and Van Reenen (2001) reckoned that the productivity of a company can increase by using new technology and effective use of skilled employees. The conceptual framework is as shown below in figure 1.



**Figure 1 Conceptual Framework**

Source: Author 2016

This framework shows that there is a positive influence of strategic change and human capital on employee performance. It also shows the mediating role of human capital on strategic change and employee performance.

The following hypothesis were tested

**H1:** Strategic change has positive association with employee performance.

**H2:** Strategic change has positive association with human capital.

**H3:** Human capital correlates positively with employee performance.

**H4a & 4b:** Human capital mediates the positive linkage between strategic change and employee performance.



## **2.4 Measurement of Variables**

The three main variables used in this study are strategic change, human capital and employee performance. Strategic change and Human capital are the independent variables and employee performance is the dependent variable.

### **2.4.1 Dependent Variable**

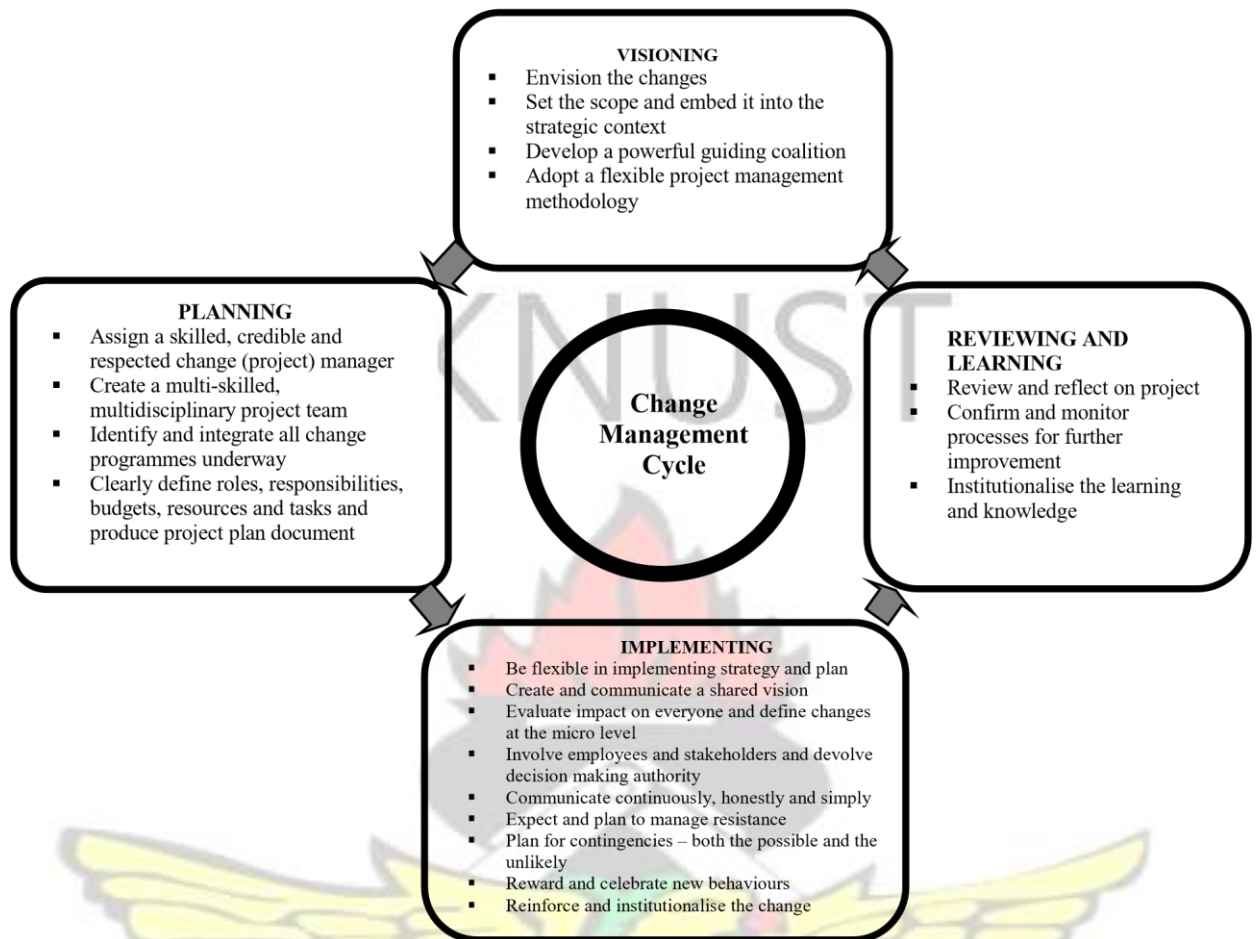
**Employee performance:** Past researchers have used several measures for operational performance. Hitt et al. (2001) defined firm performance as the ratio of net income to total firm revenue. Mathis and Jackson (2009) propounded that performance is associated with quality and quantity of output, the timeliness to which the output was delivered, attendance on the work, the efficiency and effectiveness used to complete the task. Employee performance is when a task is completed successfully by an individual instructed by organisation in accordance with acceptable standards using the given resources effectively and efficiently, Tinofirei (2011). In this research, employee performance is described as when an individual meet right timelines, achieving targets with limited resources and doing the right work as given by the employer.

### **2.4.2 Independent Variables**

#### **Strategic Change**

Among the numerous literatures on change management, Angehrn et al., (1993) established a four stage change management cycle which gives essential elements for proper change project measure. It is under this cycle (visioning, planning, implementing and reviewing or learning) the strategic change was be measured on.





**Figure 2: Theoretical Framework**

Source: Albert A. Angehrn and Jill E. M. Atherton (1993)

**Visioning:** Vision describes the aspiration of an entity for future results. Visioning a change is making the optimal desired future state of the change project bear to key stakeholders. According to Angehrn et al. (1993), visioning a change should involve the setting of scope and incorporating it into the strategic objective; creating a strong team to support who believe the change process and serve as project sponsors; and instituting a flexible project management approach.



**Planning:** A plan is a judgment regarding the best way to go about achieving an intended goal. Planning is preparing a sequence of action steps to achieve an intended goal. A plan is liken to a road map. Planning enables the organisation to establish clear objectives and formulate a plan to achieve them. Angehm et al. (1993) established that planning involves assigning a skilled, credible and respected change (project) manager; creating a multi-skilled, multidisciplinary project team; identifying and integrating all change programmes underway and clearly defining roles, responsibilities, budgets, resources and tasks and produce project plan document.

**Implementation:** This stage where the action takes place. That is executing the plan, idea or model. Angehm et al. (1993) outlined that implementation of change involves flexibility in implementing strategy and plan; creating and communicating a shared vision; evaluating impact on everyone and define change the micro level; inclusion of employees and stakeholders; expecting and planning to manage resistance; planning for contingencies; rewarding and celebrating new behaviours; reinforcing and institutionalising the change.

**Reviewing & Learning:** Reviewing of change project is assessing whether the change implemented is functioning well or not. This is a stage where key learnings are adopted for present or future use. The rational behind reviewing and learning is continuous improvement. Angehm et al. (1993) in their change management cycle posited that this stage concerns with reflecting on the project; confirming and monitoring processes for further improvement and institutionalising the learning and knowledge.

### **Human Capital**



This research used knowledge accumulation, competence, experience and application know how to measure human capital as a mediating variable.

**Knowledge Accumulation:** Knowledge is the application of facts and information, often in answering “how” questions, in a way that can be articulated and reproduced.

Drucker (1995) coined the term knowledge worker and defined it as an individual who has acquired high level of theoretical and analytical knowledge through formal education to develop new products or services. Knowledge accumulation concerns with the collection of knowledge on different ways of doing things or over a period of time.

**Competence:** This has to do with the capability and potential of an individual to deliver a desired performance of an assignment or task. Competency is the ability to do the job or work to a required standard. It involves knowledge and skills. Competency can be recruited or built through various training and development opportunities. Competency can be coined as the right action at the right time (North et al., 2014)

**Application of knowhow:** Know-how is the term given to practical knowledge on how to complete a task. Application of knowhow is the ability to apply the knowledge or common sense to execute a task.

**Experience:** This has to do with the nature of events someone has undertaken or observed. Schutjens and Wever (2000) and Bosma et al. (2004) revealed that experience is vital element of human capital which influences firm’s performance.



## **CHAPTER 3**

### **METHODOLOGY**

#### **3.0 Introduction**

This chapter seeks to give a general overview of how the study was conducted. The research was based on quantitative data. In gathering the quantitative data, questionnaires were administered conducted within the AngloGold Ashanti, Obuasi Gold Mine.

#### **3.1 Research Design**

Research design is the overall plan for relating conceptual research to relevant and practical empirical research. It is the research design that determines the efficacy of the empirical research. Descriptive survey design was employed for this research. Robson (2002) and Saunders et al (2007) established that some research design include case studies, surveys, field experiment, etc. The researcher used a case study, cross-sectional survey and quantitative design. According to Gabbie (1994), a descriptive survey has to do with data collection by administration of questionnaire or interview. A descriptive survey was considered appropriate for the study because it will allow the use of questionnaire to seek in-depth information from selected respondents.

The study researches into the mediating role of human capital in the relationship between strategic change and employee performance using a cross-sectional survey of AngloGold Ashanti, Obuasi Gold Mine.

#### **3.2 Sources of Data**

There are two sources of data, namely, primary and secondary. The primary data are collected to tackle a particular need of research. These are usually collected by the use of questionnaire, interviews and observations. The secondary data are the existing data



that become necessary to the study. These are usually collected from publications, company profiles, etc. (Saunders et al., 2007). The research used primary source of data to make argument as the researcher went to the field to gather his own data.

### **3.3 Unit of Analysis**

AngloGold Ashanti (AGA) Ltd, Obuasi Gold Mine was used as the unit of analysis to this study. The questionnaire was administered to the employees of this company at different functions or departments. The population was the total number of employees of AGA, Obuasi Gold Mine. A sample was selected from this population.

### **3.4 Population or Sample Frame**

The study was conducted on AngloGold Ashanti Ltd, Obuasi Gold Mine using a case study design. Population is defined as the group of people or objects under statistical study (Collis et al., 2009). The population used for the study was 201 which was the total number of employees in AngloGold Ashanti Ltd, Obuasi Gold Mine during the time of study. With the statistical method used to estimate the proposed model, 153 respondents were sampled. This was regarded as appropriate for dealing with the objectives of the study. Pallant, 2007 established that the larger sample, the better the results.

### **3.5 Sample Size**

The sample size is the number of people within the respondent group (Brannen, 2008). The sample size used was selected from total number of employees of AngloGold Ashanti (AGA) Ltd, Obuasi Gold Mine. As at the time of study, the total number of employees stood at 201. The sample size for this study was 153. This sample size comparing with population reduced sampling error. This sample size was used by the reason of the scope of the research based on the access to the respondents from the researcher's work site.



### **3.6 Sampling Technique**

A stratified sampling technique was employed in the study to choose the participants. This was to gain responses from all areas of the organisation. Based on functionality, samples were captured from various departments namely, Project Services, Human Resources, Mine Technical Services, Mining Operations, Processing, Engineering, Commercial and Supply Chain, Finance and Safety, Health and Environment (SHE).

### **3.7 Data Collection Instrument**

The data collection instrument used was questionnaire. The same type of questions were given to respondent to answer. The use of questionnaires is useful as they permit anonymity and produces higher response rate. A self-administered questionnaire with closed-ended statements were created and measured with 7 points of scale. The items in the questionnaire focused on strategic change, human capital and employee performance, emphasising on employee performance and operational efficiency. Following the guideline of Brace (2004), the questionnaire was designed brief to reduce stress and tiresome of respondent. Again, check boxes were used in the questionnaire for quick and ease completion (Frazer and Lawley, 2000).

### **3.8 Pilot Testing**

The questionnaire was pilot tested using a group of colleagues at various departments of the researcher's work site which is the organisation under study. This was done for response and reaction reasons. The colleagues were selected based on their familiarity with the research objectives and did not partake in the final research (Frazer and Lawley, 2000). Having received feedback, changes were made in the wording of questions, layout, sequential methods and validity before the final copy of the questionnaire was administered (Collis and Hussey, 2009).



### **3.9 Data Analysis**

All analysis and discussions were done at the organisational level and the data were collected from the employees of the case organisation under which the study was conducted. The data collected were analysed quantitatively using both inferential and descriptive statistical tools and techniques. Structural Equation Model was used to evaluate the research model and measurement model. Statistical Package for Social Sciences, IBM version 20 and LISREL were used for the analysis. Quantitative data analysis was employed in this study. Data analysed was presented in a tabular form and correlation.

The reliability and validity were conducted to improve the quality of the study. The reliability tests the consistency of items when using multiple measurement of variables (Hair et al., 2010). The reliability of the measures was tested using Cronbach Alpha. By way of reducing method bias, different scales were used to measure the items. Validity is the degree to which a test measures what it is supposed to measure. Collis et al., (2009) described validity as the level at which findings accurately meet the objectives of the study. In this study, convergent validity, discriminant validity and construct validity were tested using LISREL 8.5.

### **3.10 Brief of the Case Study**

#### **3.10.1 Overview of AngloGold Ashanti (GH) Limited, Obuasi**

Formally, AngloGold Ashanti (AGA) was Ashanti Goldfields Corporation (AGC). It is one of the leading gold mines in the world. Obuasi Gold Mine is one of AGA's mines located at Obuasi - Ghana, the southern side of Ashanti Region. The distant from the regional capital city, Kumasi to Obuasi is 60km. The mine was founded by



Edwin Cade. It became the world's second-largest gold producer after merging with AngloGold in 2004. AngloGold Ashanti is involved in exploration, development, gold mining and gold processing. The mine's operation is both surface and underground. AGA – Obuasi Gold Mine has existed and been in operation since 1897.

### **Strategic Change Projects Undertaken by AngloGold Ashanti (AGA), Obuasi Mine**

AngloGold Ashanti is a global market leader in gold production. To enhance its work practices and reaches full potential, it has embarked on a new way of operation throughout the business. 'ONE' was a company – wide initiative and the biggest initiative ever undertaken by AngloGold Ashanti. ONE includes projects such as the Business Process Framework (BPF), System for People (SP), Engagement for Optimum System (EOS), Safety Transformation and Risk. One was about a cultural change project in AngloGold Ashanti. Other change projects were Turnaround, Transformation and Project Renaissance. It was linked to AngloGold Ashanti's Mission, Vision and Values.

#### **Business Process Framework (BPF)**

The Business Process Framework (BPF) focused on the design of systems and processes that enable them to plan and execute work effectively and efficiently, to deliver results, and to identify opportunities for continuous improvement. The two basic themes that were used are provision of clarity and reduction in variation. BPF was based on the theory that if the right work is done at the right time in the right way, they will deliver expectations. Also planning, scheduling, and resourcing a work before starting we will deliver expectations more consistently and at a lower cost.



### **System for People (SP)**

Mark Cutifani, (the then AngloGold Ashanti's CEO) leadership philosophy was that "the business is ours to manage, the future is ours to create; the single most important thing to understand about our business is that people are the business and the business is the people". The statement reveals that an organisation cannot be successful without the existence of people: remove the mines from effective employees and more mines will be located and production resumed, but remove effective employees from the mines and production will slow or halt. SP's three core objectives were to create the Right Organisational Design, putting the Right People in the Right Roles and develop Effective Working Relationship through effective managerial leadership and employee engagement.

### **Engagement for Optimum System (EOS)**

This is a system for delivering sustainable business improvement; deployed at the functional unit level. The EOS equips the Functional Unit manager to lead their direct reports, front – line leaders and shop floor employees through a process to align their efforts to the organisation's strategy.

## **CHAPTER 4**

### **DATA PRESENTATION, ANALYSIS AND DISCUSSION**

#### **4.0 Introduction**

This chapter focuses on the analysis and discussion of the data collected. It gives the interpretation of the results obtained from field study. It outlines the demographic profile of the respondents, measurement model assessment, structural model, and descriptive results.



#### 4.1 Demographic Profile of Respondents

The table 4.1 shows that 75.2% of the employees who responded to the study were males and 24.8% were females. Of this, 19.6%, 37.3%, 26.8% and 14.4% of the ages were from 20 to 29, 30 to 39, 40 to 49, and 50 or above respectively. The educational level of the respondents shows that many of them had first degree, giving 48.4%. This is followed by second degree at 26.8% and Higher National Diploma (HND) at 18.3%. From the data collected, few of the respondents were O' Level, A' Level and Senior High School leavers at 6.5%. Looking at the departments distribution, 4.6%, 7.8%, 25.5%, 7.8%, 8.5%, 22.2%, 5.9%, 5.9%, and 11.8% were in Project Services, Human Resources, Mine Technical Services, Mining Operations, Processing, Engineering, Commercial & Supply chain, Finance, and Safety, Health & Environment respectively. With the years of service of the respondents, most of them have served above five (5) years giving 68%. This was followed by those who have served from 3 to 5 years at 27.5%.

**Table 4.1: Demographic Profile of Respondents**

##### Respondents Profile

		Frequency	Percentage (%)
Gender	Male	115	75.2
	Female	38	24.8
Age (years)	Less than 20	3	2.0
	20 to 29	30	19.6
	30 to 39	57	37.3
	40 to 49	41	26.8
	50 or Above	22	14.4
Education	O'/A' level/SHS	10	6.5
	HND	28	18.3



	1st Degree	74	48.4
	2nd Degree	41	26.8
	PhD	0	.0
Department	Project services	7	4.6
	Human resources	12	7.8
	Mine technical services	39	25.5
	Mining operation	12	7.8
	Processing	13	8.5
	Engineering	34	22.2
	Commercial & supply chain	9	5.9
	Finance	9	5.9
	Safety, health & environment	18	11.8
Years of service	Less than 3	7	4.6
	3 to 5	42	27.5
	Above 5	104	68.0

Source: Field Study (2016)

## 4.2 Measurement Model Assessment

### 4.2.1 Validity and Reliability Test

Confirmatory Factor Analysis (CFA) was employed to test the validity of the study model. This verifies the dimensionality of the measures used. LISREL 8.5 was used to generate the confirmatory factor analysis. Within this analysis, a three factor model was estimated, namely strategic change, human capital and employee performance.

The estimation method relied on covariance matrix as the input and maximum likelihood (Vieira, 2011). The Table 4.2 below shows the measures on each construct, the standardised loadings, errors, t-values, composite reliability (CR), and Cronbach Alpha (CA). All standardised loadings are positive and significantly 1% with CR values



above the minimum limit of 0.60 indicates that convergent validity was achieved. A goodness - of - fit was achieved having eliminated few measures that either recorded high error terms cross loadings or weak loadings as recommended by Hair et al., (2014) on model modification approach. The Goodness – of – fit indices is shown in table 4.3. On this table, the average variance extracted (AVE) values calculated were all greater than the minimum limit of 0.5 and each recorded values higher than the shared variance against any two constructs. This indicates that discriminant validity was achieved (Hair et al., 2014). The table 4.4 shows that the correlations between the constructs significantly varied from moderate to high indicating that the proposed model achieved nomological validity (Hair et al., 2014).

Using SPSS version 20, Cronbach Alpha was generated to test the scale reliability of the measures. As recorded in the table 4.2, the Cronbach Alpha figures are above the minimum limit of 0.70. This confirms that there is a good internal consistency and thus the scales were reliable (Bagozzi and Yi, 2012).

**Table 4.2 Confirmatory Factor Analysis Results**

Constructs/ Measures	Standardised Loading	Error	t- value
<b>Strategic Change</b> :(Strongly disagree to Strongly agree) CR=0.952, CA=0.907			
VSN1: Management effectively envision the need for change	0.67	0.55	fixed
VSN3: Leadership needed to support change is determined in advance	0.83	0.31	7.36
VSN4: Methods required for embracing change are effectively integrated in our corporate vision	0.66	0.56	6.68
PLN1: Skilled and credible change/project managers are considered for change	0.77	0.41	fixed
PLN2: Change project team include multi-skilled and multidisciplinary personnel	0.79	0.37	9.38
PLN4: Change project plans are in line with corporate objectives	0.74	0.45	8.78
PLN5: Change projects are properly budgeted	0.6	0.64	7.02



IMP1: There is flexibility in implementing change strategy and plan	0.67	0.54	fixed
IMP3: Change stakeholders(e.g. employees) are adequately involved in change processes	0.75	0.44	8.07
IMP4: Employees respond positively to change	0.71	0.5	7.72
IMP5: New behaviours are properly rewarded and celebrated	0.76	0.43	8.14
IMP6: Change is reinforced and institutionalized	0.82	0.33	8.69
RVW1: There is review and reflection on change projects	0.73	0.47	fixed
RVW3: New ideas emanating from change are identified and promoted	0.79	0.38	9.16
RVW4: Lessons are learnt from change that take place	0.77	0.41	8.97
RVW5: Feedbacks from change are integrated into future change policies/strategies	0.84	0.29	9.75
<b>Human capital:</b> ( <i>"Not at all" to "To a largest extent"</i> ) CR=0.983, CA=0.897			
KWC2: Training is considered as an important strategic function	0.7	0.5	fixed
KWC4: Best practices and tips are shared, improved and circulated at all unit levels	0.71	0.49	7
KWC5: Employees have the necessary manual, tools and information they need to do their jobs	0.76	0.41	7.17
COM2: Employees are made to find new and better ways of doing work/things	0.71	0.49	fixed
COM3: Leadership behaviour demonstrates that learning is valued	0.82	0.32	9.7
COM4: Employees are made to deploy formal development plans to achieve career goals	0.89	0.2	10.46
COM5: There exists learning management system which includes features such as content management, skill/competency management	0.85	0.27	10.04
<hr/>			
AKH1: Staff are equipped with technical knowledge that is not available elsewhere	0.84	0.29	fixed
AKH2: Staff apply learnt techniques in their day to day job assignments	0.81	0.34	11.4
AKH3: Learnt knowledge, skills and training outcomes are implanted in organizational processes	0.83	0.32	11.22
EXP1: Experienced employees are included in teams	0.87	0.25	fixed
EXP2: Experienced employees are given the chance to explore	0.9	0.19	14.57
EXP3: Experienced employees are made to lead projects	0.86	0.26	13.63
<b>Employee Performance:</b> ( <i>Never to Always</i> ) CR=0.832, CA=0.823			
EMPF1: I consistently achieve goals assigned to me	0.66	0.56	8.12
EMPF2: I consistently complete tasks on time	0.83	0.31	fixed



EMPF3: I am able to consistently meet targets given to me	0.74	0.46	9.1
EMPF4: My outputs could be compared with that of other high performing colleagues	0.72	0.48	8.93
EMPF5: I have greater control over my workload	0.56	0.68	6.76

*Composite Reliability = CR, Cronbach Alpha = CA*

Source: Field Study (2016)

**Table 4.3: Goodness –of- fit indices**

Construct	X <sup>2</sup>	DF	RMSEA	PV	NNFI	CFI	SRMR	RMSR	CR	AVE	CA
<b>Strategic change</b>	169.06	98	0.069	0.00001	0.906	0.923	0.0599	0.105	0.952	0.426	0.907
<b>Human Capital</b>	100.14	59	0.068	0.00066	0.943	0.957	0.046	0.0873	0.983	0.446	0.897
<b>Employee Performance</b>	1.16	5	0.0001	0.9487	1.030	1.000	0.0119	0.0102	0.832	0.501	0.823

*Chi-square = X<sup>2</sup>, Degree of Freedom = DF, Root Mean Standard Error of Approximation = RMSEA, PV, NonNormed Fit Index = NNFI, Comparative Fit Index = CFI, Standardized Mean Square Residual = SRMS, Root Mean Standard Residual = RMSR, Composite Reliability = CR, Average Variance Extracted = AVE, Cronbach Alpha = CA*

Source: Field Study (2016)

### 4.3 Structural Model Set up

#### 4.3.1 Descriptive Statistics

The table 4.4 shows the descriptive statistics of the study. The mean of 5.0889 with SD of 0.84252 for strategic change indicates that there is significant level of strategic change in the organisation under study. The average human capital of the company stands at 4.9581 with its associated standard deviation of 0.904 which shows an adequate level of human capital in the company. With average performance of 5.8118 at 0.72120 of standard deviation indicates the performance level of the employees is higher than the rest of the variables.

On the correlational results shown in table 4.4, it depicts that all the variables correlate positively with the employee performance. Strategic change positively correlate with



employee performance ( $r=0.396$ ,  $p<0.01$ ). Human capital positively correlate with employee performance ( $r=0.443$ ,  $p<0.01$ ). Strategic change positively correlate with human capital ( $r=0.613$ ,  $p<0.01$ ). Alternatively, all the 'r' values in the table 4.5 show that all the variables are positively correlated.

The correlational analysis conducted to assess the strength of relationship between the independent variables is shown in the table 4.5 below. According to Pallant (2007), when any of the coefficients of independent variables is 0.70 or above, then there is existence of multicollinearity among them. In the table 4.5, the 0.613 is the highest correlation coefficient between the independent variables which is below the 0.7 cutoff value.





**Table**

**4.4: Inter-variable Correlation and Descriptive Statistics Results**

Variables	1	2	3	4	5	6	7
1 Gender	1						
2 Age (years)	.228**	1					
3 Education	.041	.002	1				
4 Years of service	.002	.444**	-.103	1			
5 Strategic change	.138	.149	-.081	-.126	1		
6 Human capital	.008	.168*	-.133	-.079	.613**	1	
7 Employee performance	.136	.101	-.113	-.098	.396**	.443**	1
<b>Mean</b>					<b>5.0889</b>	<b>4.9581</b>	<b>5.8118</b>
<b>Standard deviation</b>					<b>.84252</b>	<b>.90402</b>	<b>.72120</b>

\*\**. Correlation is significant at the 0.01 level (2-tailed).*

\**. Correlation is significant at the 0.05 level (2-tailed).*

Source: Field Study (2016)

**Table 4.5: Inter-construct Correlation**

Constructs	V	P	I	R	KA	C	AK	E	EMP
Vision (V)	1								
Planning (P)	.539**	1							
Implementation (I)	.369**	.526**	1						
Review (R)	.394**	.485**	.608**	1					
Knowledge accumulation (KA)	.463**	.318**	.403**	.461**	1				
Competence (C)	.405**	.563**	.644**	.560**	.358**	1			
Application of knowhow (AK)	.626**	.349**	.395**	.374**	.395**	.549**	1		
Experience (E)	.389**	.596**	.570**	.627**	.277**	.656**	.417**	1	
Employee performance (EMP)	.107	.361**	.440**	.328**	.179*	.423**	.304**	.421**	1

\*\**. Correlation is significant at the 0.01 level (2-tailed).* \**. Correlation is significant at the 0.05 level (2-tailed).*

**Strategic change** (vision, planning, implementation, review); **Human Capital** (knowledge accumulation, competence, application of knowhow) and **Employee performance** Source: Field Study (2016)



There were four controlled variables in the relationships, namely, gender, age, education and years of service. These variables

#### 4.4 Structural Model Estimation and Results

The study used Ordinary Least Square regression analysis to analyse the hypothesized paths. Multiple regressions were estimated in the study as there were multiple outcome variables in the proposed model. The outcomes were: Strategic change, Human capital, and Employee performance.

Below are the mathematical representations of the models:

**Model 1:**  $\text{Emp} = b_0 + b_1G + b_2A + b_3E + b_4Y + \epsilon$  .....Equation 1

**Model 2:**  $\text{HC} = b_0 + b_1G + b_2A + b_3E + b_4Y + b_5\text{SC} + \epsilon$ ..... Equation 2

**Model 3:**  $\text{Emp} = b_0 + b_1G + b_2A + b_3E + b_4Y + b_6\text{HC} + \epsilon$ ..... Equation 3

**Model 4:**  $\text{Emp} = b_0 + b_1G + b_2A + b_3E + b_4Y + b_5\text{SC} + \epsilon$ ..... Equation 4 **Model**

**5:**  $\text{Emp} = b_0 + b_1G + b_2A + b_3E + b_4Y + b_5\text{SC} + b_6\text{HC} + \epsilon$ .....Equation 5

**Notes:** SC, HC, Emp are Strategic change, Human capital and Employee performance respectively; G, A, E and Y are the control variables Gender, Age, Education and Year respectively;  $b_0$ ,  $b_1$  refers to constant and gradient (or estimated regression coefficient) respectively;  $\epsilon$  is the error.

The results of the equations 1 to 4 are recorded in the table 4.6 below. The regression equations calculated were statistically significant.

#### 4.6: Ordinary Least Square Regression Results

Unstandardized estimates				
control Variable	Direct Effect Path			Indirect Effect Path VIF
EMP	HC	EMP	EMP	EMP



**Table**

<b>Control paths</b>						
Gender	0.175(1.282)	-0.251(-2.499)**	0.209(1.671)*	0.122(0.950)	0.198(1.548)	1.069
Age (years)	0.113(1.729)*	0.075(1.529)	0.031(0.506)	0.053(0.849)	0.030(0.496)	1.333
Education	-0.116(-1.709)*	-0.069(-1.370)	-0.061(-0.979)	-0.083(-1.290)	-0.062(-0.985)	1.014
Years of service	-0.231(-2.036)**	-0.032(-0.376)	-0.116(-1.104)	-0.122(-1.120)	-0.112(-1.057)	1.278
<b>Hypothesized paths</b>						
Strategic change		0.868(16.62)**		0.303(4.538)**	0.041(0.370)	1.095
Human capital			0.333(5.507)**		0.302(2.936)**	1.091
<b>Fit Indices</b>						
R	0.252	0.825	0.473	0.423	0.474	
$\Delta R^2$	0.063	0.681	0.224	0.178	0.224	
Adjusted $R^2$	0.038	0.670	0.197	0.151	0.192	
$R^2$	0.063	0.681	0.224	0.178	0.045	
$\Delta F$	2.525(148)**	62.98(147)**	8.487(147)**	6.408(147)**	8.622(146)**	
sig $\Delta F$	0.045	0	0.0001	0.011	0	

Note: t-values are in the parenthesis; \*\*. Coefficient is significant at the 0.01 level (2-tailed).

\*. Coefficient is significant at the 0.05 level (1-tailed); Hypothesized path evaluated at 5% significance level (critical value =1.645, 1-tailed test)

Source: Field Study (2016)

#### 4.5 Hypothesis Evaluation and Discussion Findings

**H1:** This examines that Strategic change positively relate Employee performance. As shown in the table 4.6, the study statistically support the hypothesis, given  $\beta=0.303$ ;  $t=4.538$ ,  $p<0.01$ . This indicates that an average employee of AGA will significantly perform well when there is a strategic change occurs in the company. In the study, strategic change significantly gives 17.8% to employee performance.

**H2:** This also examines that Strategic change has a positive relationship with Human capital. As shown in the table 4.6, the study statistically support the hypothesis, given  $\beta=0.868$ ;  $t=16.62$ ,  $p<0.01$ . This depicts that when the company institute a strategic change, human capital of the employees will increase. Significantly, strategic change gives 68.1% to human capital.



**H3:** This assesses that Human capital has a positive relationship with employee performance. As shown in the table 4.6, the study statistically support the hypothesis, given  $\beta=0.333$ ;  $t=5.507$ ,  $p<0.01$ . This depicts that when human capital of the employees is developed, their performance will increase. In the study, human capital significantly gives 22.4% to employee performance.

**H4:** This assesses that Human capital mediates strategic change and employee performance. Statistically, there is significant relationship between strategic change, human capital and employee performance. As shown in the table 4.6, the hypothesized path gives strategic change indirect relationship to employee performance through human capital at  $\beta=0.041$ ;  $t=0.370$ ,  $p<0.01$ . This satisfies the mediation condition that the 't' value of the direct path (Strategic change and Employee performance) should near zero. This depicts that when the company institute a strategic change, the human capital of the employees will increase and thus will increase the employees' performance.

Additionally, in assessing how strategic change can influence employee performance through human capital, a Sobel test was conducted to confirm mediation using Sobel t statistics given by  $a*b/\text{SQRT}(b^2*S_a^2 + a^2*S_b^2)$  as recommended by Preacher and Leonardelli (2015) and the result is shown in table 4.7 below. The results show that Strategic change is no longer significant when Human capital is controlled, hence the finding supports fullmediation. There is indirect effect of strategic change on employee performance through human capital is significant.



## Table

**4.7: Test for mediation – Sobel test results**

Unstandardized $\beta$					
Path	Direct Effect	Indirect Effect	Total Effect	Sobel Test Statistics	Form of Mediation
SC $\rightarrow$ HC $\rightarrow$ EMP	0.303	$0.041 \times 0.302 = 0.012$	0.315	2.897	full mediation

Source: Field Study (2016)





## **CHAPTER 5**

### **SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS**

#### **5.0 Introduction**

This is the last chapter of the research. It gives a summary of the findings and implication of the results for the study, recommendations drawn from the overall conclusion. It also gives recommendation for further research.

#### **5.1 Summary of Findings**

The main objective of the study was to examine the mediating role of human capital in the strategic change and performance linkage in AngloGold Ashanti (AGA), Obuasi Mine. 153 employees were sampled from 201 employees in the study.

Based on series of analysis conducted on the data collected, it was shown that both strategic change and human capital are predictors of employee performance. It was also revealed that human capital mediates the relationship between strategic change and employee performance. The specific findings are expounded below.

##### **5.1.1 The effect of Strategic Change on Employee Performance**

The study showed that strategic change has positive relationship with employee performance. In the study, strategic change significantly gives 17.8% variations in employee performance. The four measures (visioning, planning, implementing, reviewing or learning) of strategic change were very good predictors of employee performance.



## Table

### 5.1.2 The Effect of Strategic change on Human Capital

The study revealed that strategic change has significant positive effect on human capital.

Significantly, strategic change gave 68.1% variation in human capital. The

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vision, planning, implementation and review also have higher impact on human capital.

### **5.1.3 The Effect of Human Capital on Employee Performance**

In this research, it was found that human capital has a positive relationship with employee performance. The human capital significantly gave 22.4% variation in employee performance. The measure of human capital, namely, knowledge accumulation, competence, application of knowhow and experience were better predictors of employee performance.

### **5.1.4 The Mediation Role of Human Capital on Strategic change and Employee Performance**

There was significant relationship between strategic change, human capital and employee performance in the study as the mediation condition that the 't' value of the direct path (Strategic change and Employee performance) should be zero or approach zero was satisfied. The mediation of human capital on strategic change and employee performance also gave significant variation 22.4%. The measures of human capital predicted the relationship between strategic change and employee performance.

## **5.2 Summary of Hypothesis Results and Conclusion**

The research examined four proposed hypothesis. All the hypotheses were fully supported with empirical data and more importantly, there was a full mediation of human capital on strategic change and employee performance.

## **5.3 Conclusion**

Doing things the same way does not achieve different results. Change is very difficult to adopt in every human institution, however when it is embraced, there is a payback.



Strategic change in organisations always comes with the purpose to improve performance in the long run. Strategic change managed from top-down (that is management driving change down the organisation.) geared towards developing human capital will not only make the subsequent change meaningful but achieve the employee performance.

As depicted from the study, strategic change influences employee performance through human capital. Human capital on the other hand influences employee performance directly. Therefore human capital development should be seen as driver of employee performance. This is empirically tested in the study. Within the study, it was found that other variables like gender, age, educational level and years of service can influence the human capital and performance but they were controlled. Again, the results and analysis confirm findings on existing literature for strategic planning to performance and human capital to performance.

There are limit literature on the mediating effect of human capital on strategic change and employee performance.

#### **5.4 Recommendation**

Upon major findings coming from the research, it is therefore recommended that the following are adhered to:

Managers should clearly define the vision of change, set the right scope and incorporate it into the objective. They should have strong team and guiding principle for change projects and adopt flexible change project management methodology. When it comes to planning change, managers should involve hands-on and skilled team. There must a multi-skilled, versatile project team who can cover many areas of change objectives.



There should be role clarity and thought through project plan document.

On the implementation side, managers should

- Be flexible in implementing strategy and plan.
- Create and communicate a shared vision
- Evaluate impact on everyone and define changes at the micro level
- Involve employees and stakeholders and devolve decision making authority
- Communicate continuously, honestly and simply
- Expect and plan to manage resistance
- Plan for contingencies – both the possible and the unlikely
- Reward and celebrate new behaviours
- Reinforce and institutionalise the change

Another important activity that is usually skipped by managers is reviewing and learning. There should be a period and room to review and reflect on the outcome of change project. Confirmation and monitoring processes for further improvement should be put in place. Managers should institutionalise the learning and knowledge.

Managers play a major role in human capital development. Career development plans should be functional at every level in the organisation and training also be considered as an important strategic function. Achievements of targets should be communicated for awareness at all unit levels. Employees must be given the required manual, instruments and material for their work. Employees should be given the opportunity to bring out with new ideas and direct better ways of doing work. On the job learning must be hipped from leadership level. There must be a system in learning and development unit like content development, skill/competency development. The staff



should also be equipped with the technical know-how that is not common with competitors. There must be supervision of staff to apply learnt techniques everyday as they execute their assigned tasks. The outcomes of training should be instituted in organizational processes. To have a balance workforce and transfer knowledge among employees, experienced employees should be included in teams and given the chance to explore. Lastly, experienced employees must be made to lead change projects.

### **5.5 Recommendation for further studies**

Numerous organisations should be utilized so that the results of this study would be the exceptional representation of all organisations.

The findings of this research provide the insight that the mediation of innovation on human capital and employee performance can be further researched on.





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## APPENDICES

### Appendix 1: Framework

Figure 1: Conceptual Framework

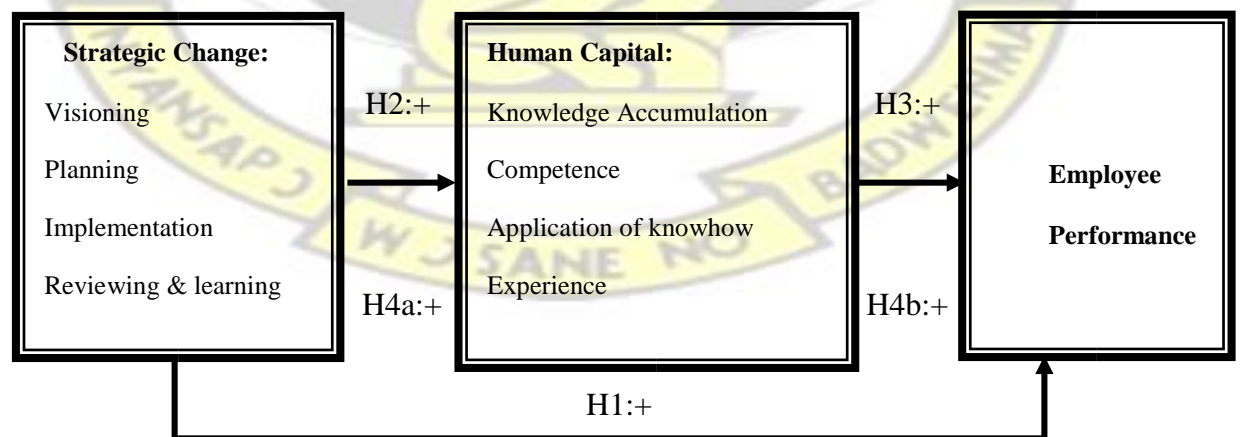
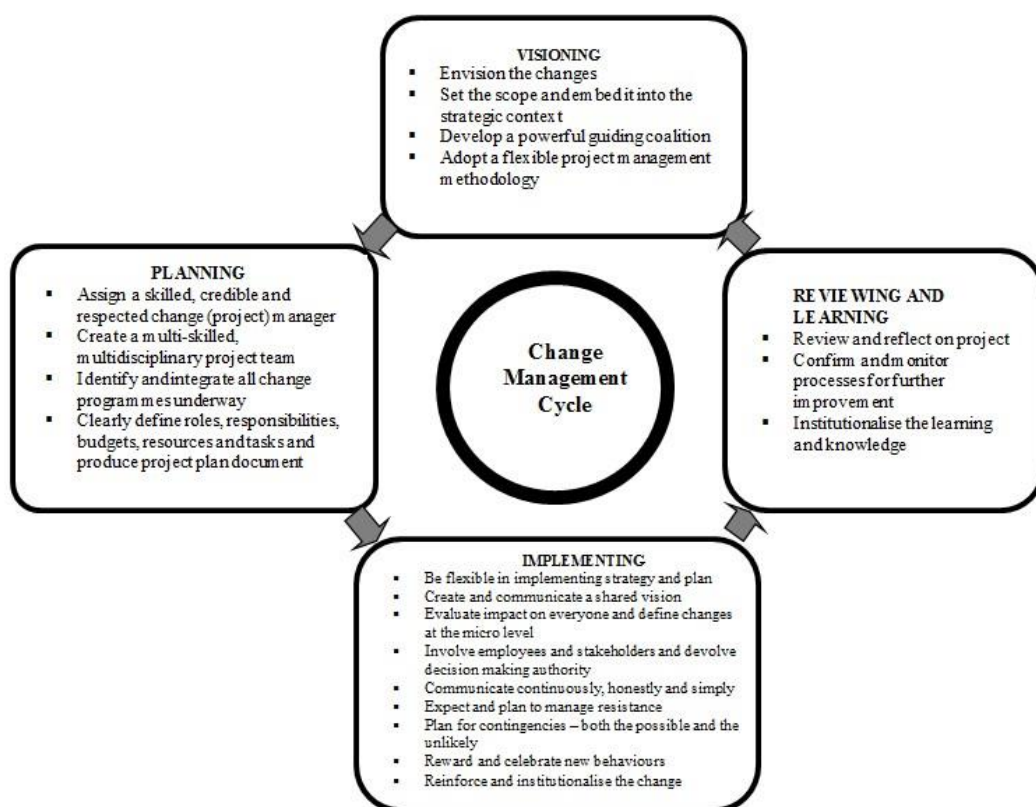


Figure 2: Theoretical Framework





Source: Albert A. Angehrn and Jill E. M. Atherton (1993)

## Appendix 2: Data Analysis Outputs

Table 4.1: Demographic Profile of Respondents

### Respondents Profile

		Frequency	Percentage (%)
Gender	Male	115	75.2
	Female	38	24.8
Age (years)	Less than 20	3	2.0
	20 to 29	30	19.6
	30 to 39	57	37.3
	40 to 49	41	26.8
	50 or Above	22	14.4
Education	O/A' level/SHS	10	6.5
	HND	28	18.3



	1st Degree	74	48.4
	2nd Degree	41	26.8
	PhD	0	.0
Department	Project services	7	4.6
	Human resources	12	7.8
	Mine technical services	39	25.5
	Mining operation	12	7.8
	Processing	13	8.5
	Engineering	34	22.2
	Commercial & supply chain	9	5.9
	Finance	9	5.9
	Safety, health & environment	18	11.8
	Years of service Less than 3	7	4.6
	3 to 5	42	27.5
	Above 5	104	68.0

Source: Field Study (2016)

Table 4.2 Confirmatory Factor Analysis Results

Constructs/ Measures	Standardised Loading	Error	t-value
<b>Strategic Change</b> :( <i>Strongly disagree to Strongly agree</i> ) CR=0.952, CA=0.907			
VSN1: Management effectively envision the need for change	0.67	0.55	fixed
VSN3: Leadership needed to support change is determined in advance	0.83	0.31	7.36
VSN4: Methods required for embracing change are effectively integrated in our corporate vision	0.66	0.56	6.68
PLN1: Skilled and credible change/project managers are considered for change	0.77	0.41	fixed
PLN2: Change project team include multi-skilled and multidisciplinary personnel	0.79	0.37	9.38
PLN4: Change project plans are in line with corporate objectives	0.74	0.45	8.78
PLN5: Change projects are properly budgeted	0.6	0.64	7.02



IMP1: There is flexibility in implementing change strategy and plan	0.67	0.54	fixed
IMP3: Change stakeholders(e.g. employees) are adequately involved in change processes	0.75	0.44	8.07
IMP4: Employees respond positively to change	0.71	0.5	7.72
IMP5: New behaviours are properly rewarded and celebrated	0.76	0.43	8.14
IMP6: Change is reinforced and institutionalized	0.82	0.33	8.69
RVW1: There is review and reflection on change projects	0.73	0.47	fixed
RVW3: New ideas emanating from change are identified and promoted	0.79	0.38	9.16
RVW4: Lessons are learnt from change that take place	0.77	0.41	8.97
RVW5: Feedbacks from change are integrated into future change policies/strategies	0.84	0.29	9.75
<b>Human capital:</b> ( <i>"Not at all" to "To a largest extent"</i> ) CR=0.983, CA=0.897			
KWC2: Training is considered as an important strategic function	0.7	0.5	fixed
KWC4: Best practices and tips are shared, improved and circulated at all unit levels	0.71	0.49	7
KWC5: Employees have the necessary manual, tools and information they need to do their jobs	0.76	0.41	7.17
COM2: Employees are made to find new and better ways of doing work/things	0.71	0.49	fixed
COM3: Leadership behaviour demonstrates that learning is valued	0.82	0.32	9.7
COM4: Employees are made to deploy formal development plans to achieve career goals	0.89	0.2	10.46
COM5: There exists learning management system which includes features such as content management, skill/competency management	0.85	0.27	10.04
<hr/>			
AKH1: Staff are equipped with technical knowledge that is not available elsewhere	0.84	0.29	fixed
AKH2: Staff apply learnt techniques in their day to day job assignments	0.81	0.34	11.4
AKH3: Learnt knowledge, skills and training outcomes are implanted in organizational processes	0.83	0.32	11.22
EXP1: Experienced employees are included in teams	0.87	0.25	fixed
EXP2: Experienced employees are given the chance to explore	0.9	0.19	14.57
EXP3: Experienced employees are made to lead projects	0.86	0.26	13.63
<b>Employee Performance:</b> ( <i>Never to Always</i> ) CR=0.832, CA=0.823			
EMPF1: I consistently achieve goals assigned to me	0.66	0.56	8.12
EMPF2: I consistently complete tasks on time	0.83	0.31	fixed
EMPF3: I am able to consistently meet targets given to me	0.74	0.46	9.1
EMPF4: My outputs could be compared with that of other			



high performing colleagues	0.72	0.48	8.93
EMPF5: I have greater control over my workload	0.56	0.68	6.76

Composite Reliability = CR, Cronbach Alpha = CA Source:

Field Study (2016)

Table 4.3: Goodness –of- fit indices

Construct	X <sup>2</sup>	DF	RMSEA	PV	NNFI	CFI	SRMR	RMSR	CR	AVE	CA
Strategic change	169.06	98	0.069	0.00001	0.906	0.923	0.0599	0.105	0.952	0.426	0.907
Human Capital	100.14	59	0.068	0.00066	0.943	0.957	0.046	0.0873	0.983	0.446	0.897
Employee Performance	1.16	5	0.0001	0.9487	1.030	1.000	0.0119	0.0102	0.832	0.501	0.823

Chi-square = X<sup>2</sup>, Degree of Freedom = DF, Root Mean Standard Error of Approximation = RMSEA, PV, NonNormed Fit Index = NNFI, Comparative Fit Index = CFI, Standardized Mean Square Residual = SRMS, Root Mean Standard Residual = RMSR, Composite Reliability = CR, Average Variance Extracted = AVE, Cronbach Alpha = CA

Source: Field Study (2016)

Table 4.4: Inter-variable Correlation and Descriptive statistics Results

		1	2	3	4	5	6	7
Variables		1						
1 Gender		1						
2 Age (years)	.228**	1						
3 Education	.041	.002	1					
4 Years of service	.002	.444**	-.103	1				
5 Strategic change	.138	.149	-.081	-.126	1			
6 Human capital	.008	.168*	-.133	-.079	.613**	1		
7 Employee	**	.443**	1				1	
		.136	.101	-.113	-.098	.396		

performance

Mean	5.0889	4.9581	5.8118
------	--------	--------	--------



**Standard  
deviation**

**.84252 .90402 .72120**

*\*\*.* Correlation is significant at the 0.01 level (2-tailed).

*\*.* Correlation is significant at the 0.05 level (2-tailed).

Source: Field Study (2016)

Table 4.5: Inter-construct Correlation

Constructs	V	P	I	R	KA	C	AK	E	EMP
Vision (V)	1								
Planning (P)	.539**	1							
Implementation (I)	.369**	.526**	1						
Review (R)	.394**	.485**	.608**	1					
Knowledge accumulation (KA)	.463**	.318**	.403**	.461**	1				
Competence (C)	.405**	.563**	.644**	.560**	.358**	1			
Application of knowhow (AK)	.626**	.349**	.395**	.374**	.395**	.549**	1		
Experience (E)	.389**	.596**	.570**	.627**	.277**	.656**	.417**	1	
Employee performance (EMP)	.107	.361**	.440**	.328**	.179*	.423**	.304**	.421**	1

*\*\*.* Correlation is significant at the 0.01 level (2-tailed). *\*.* Correlation is significant at the 0.05 level (2-tailed).

**Strategic change** (vision, planning, implementation, review); **Human Capital** (knowledge accumulation, competence, application of knowhow) and **Employee performance**

Source: Field Study (2016)

Table 4.6: Ordinary Least Square Regression Results

Unstandardized estimates						
control Variable		Direct Effect Path			Indirect Effect Path	VIF
EMP		HC	EMP	EMP	EMP	
<b>Control paths</b>						
Gender	0.175(1.282)	-0.251(-2.499)**	0.209(1.671)*	0.122(0.950)	0.198(1.548)	1.069
Age (years)	0.113(1.729)*	0.075(1.529)	0.031(0.506)	0.053(0.849)	0.030(0.496)	1.333
Education	-0.116(-1.709)*	-0.069(-1.370)	-0.061(-0.979)	-0.083(-1.290)	-0.062(-0.985)	1.014
Years of service	-0.231(-2.036)**	-0.032(-0.376)	-0.116(-1.104)	-0.122(-1.120)	-0.112(-1.057)	1.278
<b>Hypothesized paths</b>						
Strategic change		0.868(16.62)**		0.303(4.538)**	0.041(0.370)	1.095



Human capital			0.333(5.507)**		0.302(2.936)**	1.091
<b>Fit Indices</b>						
R	0.252	0.825	0.473	0.423	0.474	
$\Delta R^2$	0.063	0.681	0.224	0.178	0.224	
Adjusted R <sup>2</sup>	0.038	0.670	0.197	0.151	0.192	
R <sup>2</sup>	0.063	0.681	0.224	0.178	0.045	
$\Delta F$	2.525(148)**	62.98(147)**	8.487(147)**	6.408(147)**	8.622(146)**	
sig $\Delta F$	0.045	0	0.0001	0.011	0	

Note: *t*-values are in the parenthesis; \*\*. Coefficient is significant at the 0.01 level (2-tailed).

\*. Coefficient is significant at the 0.05 level (1-tailed); Hypothesized path evaluated at 5% significance level (critical value = 1.645, 1-tailed test)

Source: Field Study (2016)

Table 4.7: Test for Mediation – Sobel Test Results

Unstandardized $\beta$						
Path	Direct Effect	Indirect Effect	Total Effect	Sobel Test Statistics	Form of Mediation	
SC → HC → EMP	0.303	0.041*0.302=0.012	0.315	2.897	full mediation	

Source: Field Study (2016)

### Appendix 3: Data Collection Instrument

#### Questionnaire

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY (KNUST)  
SCHOOL OF BUSINESS  
DEPARTMENT OF MARKETING AND CORPORATE STRATEGY

Dear respondent,

I am a student of the above Institution researching on **strategic change, human capital, and organisational performance: the case of AngloGold Ashanti – Obuasi Mine**. I would be most



grateful, if you could provide responses to the items on this questionnaire. All information provided would not be disclosed to the public as it is purely an academic endeavour. Thank you.

### Part 1: Respondent's profile

1. **Gender** ☐ Male ☐ Female
2. **Age (in years)** ☐ Less than 20 ☐ 20 to 29 ☐ 30 to 39 ☐ 40 to 49 ☐ 50 or above
3. **Educational level** ☐ O'A'-level/SHS ☐ HND ☐ 1<sup>st</sup> Degree ☐ 2<sup>nd</sup> Degree ☐ PhD
3. **Department** ☐ Projects Services ☐ Human Resources ☐ Mine Technical Service  
☐ Mining Operation ☐ Processing ☐ Engineering ☐ Commercial & Supply Chain ☐ Finance ☐ Safety, Health & Environment (SHE)
4. **Years working in organisation** ☐ Less than 3 ☐ 3 to 5 ☐ Above 5

### Part 2: Strategic Change

1. **Which of the following key/strategic change projects below have you observed/experienced in this firm?** [Please tick all that you've experienced]  
☐ Turnaround ☐ Transformation ☐ Business Process Framework (BPF) ☐ System for People (SP) ☐ Engagement for Optimum System (EOS) ☐ Project Renaissance (Project R)

2. Kindly use the 7-point scale below to provide your responses to the items in the table which relate to the nature of strategic change in this organisation.

1	2	3	4	5	6	7
_____	_____	_____	_____	_____	_____	_____
Strongly Disagree	Slightly	Neither agree nor	Slightly agree	Agree	Strongly disagree	disagree disagree agree

In this organization,	1	2	3	4	5	6	7
1. Management effectively envision the need for change	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Management set the right scope and embed into the strategic objectives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Leadership needed to support change is determined in advance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Methods required for embracing change are effectively integrated in our corporate vision	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1. Skilled and credible change/project managers are considered for change	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Change project team include multi-skilled and multidisciplinary personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. There is clarity of roles and responsibility in change projects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



4. Change project plans are in line with corporate objectives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Change projects are properly budgeted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1. There is flexibility in implementing change strategy and plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Change vision and plans are effectively communicated to employees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Change stakeholders(e.g. employees) are adequately involved in change processes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Employees respond positively to change	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. New behaviours are properly rewarded and celebrated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Change is reinforced and institutionalized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<b>In this organization,</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
1. There is review and reflection on change projects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Change processes are effectively monitored against standards set	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. New ideas emanating from change are identified and promoted	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Lessons are learnt from change that take place	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Feedbacks from change are integrated into future change policies/strategies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Part 3: Human Capital

Please use a scale ranging from 1 = “not at all” to 7= “to a largest extent” to indicate the extent to which each of the following prevails in this organisation:	Not at all				To a largest extent			
	1	2	3	4	5	6	7	
1. Employees undergo job specific formal training	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2. Training is considered as an important strategic function	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3. Team work is encouraged and facilitated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4. Best practices and tips are shared, improved and circulated at all unit levels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5. Employees have the necessary manual, tools and information they need to do their jobs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1. Employees are encouraged to come up with new ideas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2. Employees are made to find new and better ways of doing work/things	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3. Leadership behaviour demonstrates that learning is valued	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4. Employees are made to deploy formal development plans to achieve career goals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5. There exists learning management system which includes features such as content management, skill/competency management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1. Staff are equipped with technical knowledge that is not available elsewhere	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2. Staff apply learnt techniques in their day to day job assignments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



3. Learnt knowledge, skills and training outcomes are implanted in organizational processes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1. Experienced employees are included in teams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Experienced employees are given the chance to explore	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Experienced employees are made to lead projects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Experienced gained from organizational processes are shared	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### Part 4: Employee Performance

Please use the respective scales provided at the right sides of the table to indicate your opinions on each set of items.

What is your opinion on each of the following over the past 12 months in this organisation	Never <span style="float: right;">Always</span>						
	1	2	3	4	5	6	7
1. I consistently achieve goals assigned to me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I consistently complete tasks on time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I am able to consistently meet targets given to me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. My outputs could be compared with that of other high performing colleagues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I have greater control over my workload	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Thank you so much.

**Source: Field Study (2016)**