CRITICAL SUCCESS FACTORS TO IMPROVE DIRECT LABOUR PRODUCTIVITY

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CRITICAL SUCCESS FACTORS TO IMPROVE DIRECT LABOUR PRODUCTIVITY

By

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DECLARATION

I, Conrad Andrew Brown (209030333), hereby declare that the treatise for Masters in Business Administration is my own work and that it has not previously been submitted for assessment or completion of any postgraduate qualification to another University or for another qualification.

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ABSTRACT

An increase in the global competitiveness has forced manufacturing organisations to re-look their facility from a labour productivity standpoint. Leveraging a manufacturing operation into a competitive avantage must at all times support the organisation's objective. It is therefore critical that the operation reviews its strategy so that it fulfils the ever changing needs in the market.

Purpose – The main objective of this research is to identify the critical success factors to improve direct labour efficiency within Johnson Controls Automotive South Africa (Pty) Ltd (JCI).

Design/methodology/approach – A combination of a comprehensive literature review and visits to the Uitenhage plant and head office were employed in the study. JCI practices were observed to highlight the level of direct labour productivity. This was followed by interviewing relevant and key personel who had an involvement in achieving direct labour productivity in the plant. A questionnaire-based research approach was adopted for this purpose and a total of 83 valid survey responses were received from staff in the Uitenhage plant, together with head office staff who directly supported the plant. The questionnaire was designed to identify and test perceptions of employees, regarding the factors of production, identified as sub variables. The research aim was to determine the most practical and effective strategies to improve direct labour productivity. Results were analysed and interpreted after which recommendations were formulated.

Findings – Several critical success factors identified as sub variables were tested to understand their impact on direct labour productivity. Empirical results showed that organisational culture, leadership culture, employee engagement, communication and skills, development and training, had a significant effect on direct labour productivity. Respective ratings of these elements were discussed with the focus of improving this going forward.

Research limitations/implications – Continued scepticim within JCI about the benefits of direct labour productivity to their business is one of the fundamental limitations this research faces.

Originality/value – The novelty of the research project stems from the realization of key factors contributing to the improvement of direct labour productivity within the JCI enviroment. The results would provide JCI with indicators and guidelines for a successful implementation of direct labour productivity initiatives in the Uitenhage plant.

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CHAPTER 1

SCOPE OF THE STUDY

1.1 INTRODUCTION

In the current global competitive market, it has become essential for firms to be adaptive and responsive in order to ensure their survival in the market place. Due to these phenomena, organisations need to place a higher focus on developing a strategy in order to improve their product and service delivery, so as to ensure a competitive advantage with their customers (Deros, 2008).

There have been various scientific literature explorations using various estimations of labour efficiency but the interpretation of the definition has been rather controversial, in that hardly any empirical studies exist which analyse labour efficiency and its impact on long term competitive ability (Stankeviciene, Liucviatiene, & Simelyte, 2009).

Productivity has been synonymously mistaken for direct labour productivity, effectiveness or labour efficiency. Although the relationship between direct labour productivity, efficiency and effectiveness has been thoroughly studied, it could not fully explain the phenomena of labour efficiency (Attar, Gupta & Desai).

According to Kleiynhas (2006), improved labour efficiency can be a result of better- trained employees or better leadership effectiveness. Kleynhans (2006) points out that the lack of containing the labour cost could impact on the global competitiveness of the organisation.

1.2 BACKGROUND OF THE STUDY

Johnson Controls Automotive (Pty) Ltd is an automotive component manufacturer supplying components to various OEMs in South Africa. It is a wholly owned subsidiary of Johnson Controls International (JCI), which is a multinational organisation situated in more than 150 countries and it employs more than 168 000 employees worldwide. JCI is divided into three main divisions; namely, Building Efficiency, Automotive Experience and Power Solutions.

The main operation in South Africa is Johnson Controls Automotive (Pty) Ltd which falls under the Automotive Experience division. The Automotive Experience in South Africa entails supplying automotive seating, overhead systems, door and instrument panels and interior electronics.

According to ww.johnsoncontrols.com, Johnson Controls' values are entrenched through its execution of the following characteristics/elements:

- integrity – act with honesty, fairness, respect and safety (this strengthens relationships across businesses and functions)
- high focus on customer satisfaction (exceeding and meeting customer expectations and delivering what was promised)
- employee engagement (foster a culture that promotes excellent performance, teamwork inclusion leadership and growth)
- innovation (always seeking better ways and encourage change)
- sustainability (through products, services, operations and community involvement, and efficient uses of resources are made to benefit all people and our planet).

The vision statement of Johnson Controls is to create a more comfortable, safe and sustainable world.

In view of its vision statement, Johnson Controls needs very efficient staff to ensure its sustainability in the current completive market environment. This calls for a need to identify and optimise the factors that lead to labour efficiency. Hence, the aim of the study is to identify the critical factors that improve the direct labour efficiency within Johnson Controls Automotive South Africa (Pty) Ltd (JCI).

The research dilemma is highlighted in the monthly General Management Activity Report (GMAR), which reflected a huge gap between the best Johnson Controls International (JCI) plants, versus the results of the local plants.

1.2.1 Business structure and location

Johnson Controls South Africa is led by a central management team situated in the Uitenhage industrial hub. This management team reports in turn through a complex matrix structure by commodity and Central Business Unit (CBU), to the JCI European leadership structure.

The production sites are situated in Pretoria (Roslyn and Silverton), East London IDZ and Uitenhage. Customers serviced are BMW SA, NISSAN South Africa (NSA), Volkswagen of South Africa (VWSA), Ford Motor Company (FMC) and Mercedes-Benz South Africa (MBSA). Regional functional teams are located in the headquarters situated in Uitenhage.

1.3 PROBLEM STATEMENT

A positive real increase in the prices of production factors, as the consequence of an inefficient degree of productivity, can no longer be tolerated in competitive markets. The ability of businesses and industries to survive and more specifically to be competitive is critically reliant on a superior level of cost efficiency and in particular a more efficient input base (Van Zyl, 2010). Consequently, Johnson Controls is not immune to the problem.

Durkin (2007), maintains that when personnel are engaged and connected to their work and their company's vision, they feel that they are contributing to the organisation, and therefore they feel more loyal to the company. This in turn has a positive impact on the productivity of the organisation.

Current research fails to measure the impact of the lack of direct labour productivity on the profitability of the organisation. There appears to be very little research done on the relationship between profitability and productivity in the automotive sector in South Africa. The afore-mentioned statement is applicable in the case of Johnson Controls at the Uitenhage plant. It is important to identify which are the critical success factors that lead to direct labour productivity and only once this is clearly understood, can action be taken to effectively address this issue.

This leads to the question which is being addressed in this research: **What are the critical factors leading to direct labour productivity improvement at Johnson Controls Automotive South Africa?**

In order for Johnson Controls to be competitive in the local market, a key competitive factor is to ensure that it contains its production cost, and more specifically direct labour productivity.

Despite various internal initiatives, Johnson Controls could not effectively address the direct labour productivity dilemma. Considering the above background the present study seeks to investigate how direct labour productivity can be enhanced by implementing effective strategies for the following: organisational culture, leadership practices, communication, employee engagement and skills and development and training, to mention but a few of the perceived determinants. In order to contain this problem, it is important for Johnson Controls to understand what are the most important determinates of direct labour productivity.

Evaluation of the problem identifies several sub- problems which have been listed below:

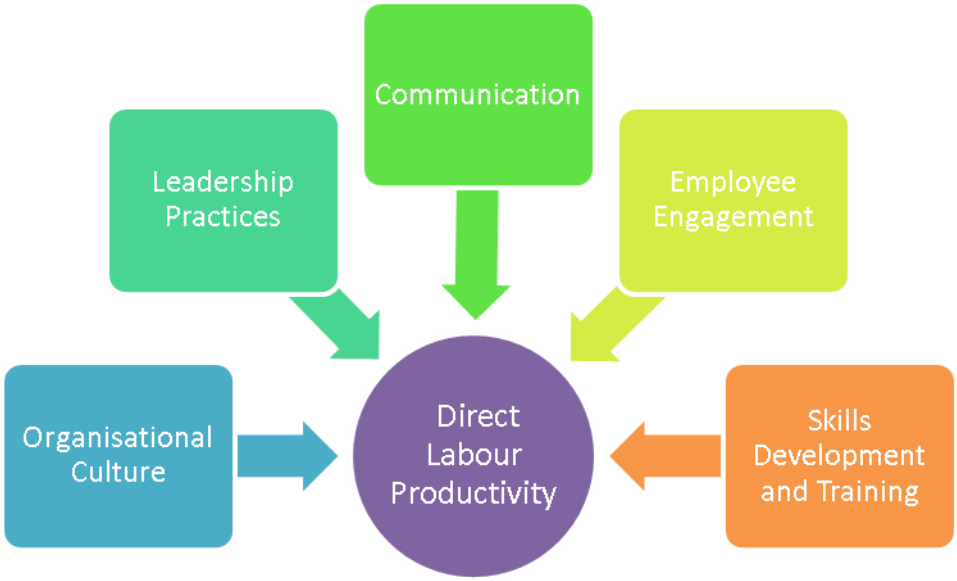
1.3.1. SUB-PROBLEMS

a) What is the current level of direct labour productivity?
b) How does organisational culture impact on direct labour productivity?
c) How do effective leadership practices or the lack thereof, impact on direct labour productivity?
d) How does communication influence direct labour productivity?
e) How does employee engagement impact on direct labour productivity?
f) How do the skills development and training of the employees impact on direct labour productivity?

In order to understand these constructs and relationships, a conceptual model was developed to study the variables identified. It should be noted that this is a complex concept which is not exhausted. The scope of the research has been limited to the variable factors identified in this study.

Figure 1.1 below illustrates a conceptual model which identifies critical success factors that will contribute to the effective implementation of direct labour productivity.

FIGURE 1.1: CONCEPTUAL MODEL FOR EFFECTIVE IMPLEMENTATION OF DIRECT LABOUR PRODUCTIVITY



1.4 OBJECTIVES OF THE STUDY

Primary research objective:

The primary objective of this study is to contribute to the optimum growth of an organisation by identifying critical success factors that would improve effective labour productivity. More specifically, the study investigates the influence of organisational culture, leadership practices, employee engagement, communication and skills development and training on labour productivity.

1.5 HYPOTHESES

In order to empirically test the proposed conceptual model to improve direct labour productivity at Johnson Controls Automotive, the following null hypotheses were formulated:

H01 Organisational culture is not related to direct labour productivity at Johnson Controls

H02 Leadership practices are not related to direct labour productivity at Johnson Controls

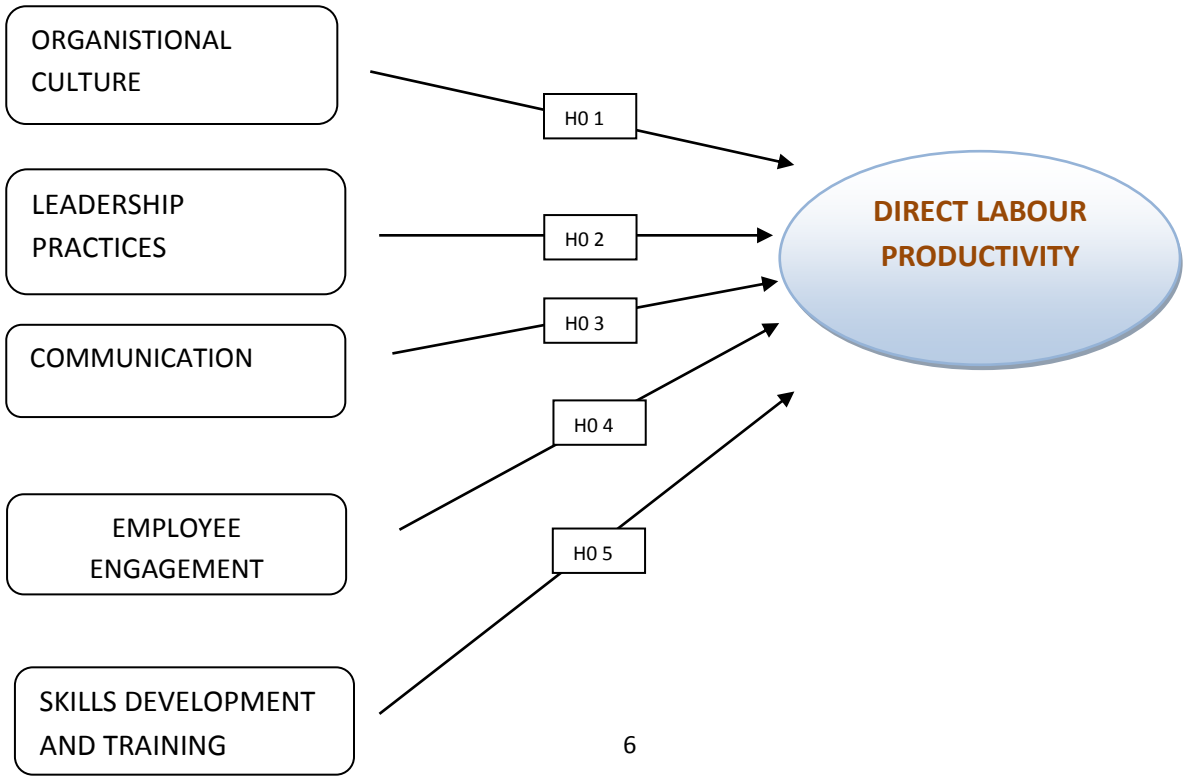
H03 Communication is not related to direct labour productivity at Johnson Controls

H04 Employee engagement is not related to direct labour productivity at Johnson Controls

H05 Skills development and training are not related to direct labour productivity at Johnson Controls

The null hypothesis model is graphically depicted in Figure 1.2 below.

FIGURE 1.2: THE HYPOTHESISED MODEL TO IMPROVE DIRECT LABOUR PRODUCTIVITY



1.6 DEMARCATION OF THE RESEARCH

Research boundaries enable clearly defined objectives which result in manageable assessments.

The study was undertaken at a single industrial company, geographically located in the Uitenhage industrial area. The reason for choosing a single company is that, when testing theory, there is a need to limit or control the number of variables (Mitchell, 2007) By choosing a single company one can keep vision, strategy, structure, systems, processes, HR practices, finance and marketing constant. This allowed the researcher to test the factual relationships between organisational leadership and direct labour efficiency, in this single company but within multiple organisational levels.
Despite being significant to direct labour efficiencies, certain aspects have been omitted.

1.6.1 Organisational Level

A study was conducted on a sample of Johnson Controls Automotive employees comprising machine operators, technicians, professional staff and management levels. These employees were a cross-section of production, quality, engineering, logistics, and maintenance staff.

1.6.2 Size of the Organisation

According to the GMAR report for January 2014, Johnson Controls Uitenhage employs 309 people of which 293 are wage-earning and 16 support functions.

1.6.3 Geographical demarcation

The study is confined to Johnson Controls Automotive – Uitenhage Plant.

1.7 SIGNIFICANCE OF THE RESEARCH

The results of the research will improve the organisation's perception of the determinants on direct labour productivity and in so doing, the company can more effectively foster direct labour productivity. The organisation will achieve a competitive edge if direct labour productivity is successfully managed.

Once the impact of leadership on direct labour productivity is understood, then actions can be driven and strategically aligned to optimise this relationship. By understanding the influences

that organisational culture, leadership practices, communication, employee engagement and skills development and training have on direct labour productivity, the organisation can more specifically refine the support and management of these enablers to ensure that labour productivity is achieved. Management can then make recommendations on strategies that Johnson Controls can implement to ensure that direct labour productivity is achieved and maintained.

1.8 REASERCH DESIGN

This section outlines the main methodology that will be followed in the study.

1.8.1 Research Methodology

The following approach was adopted to investigate and identify important determinants such as leadership and its ultimate impact on direct labour productivity.

1.8.2 Literature Survey

This is geared toward collecting numerous resources and data to approach the main problem and sub-problems from a literature perspective.

1.8.3 Empirical Study

The empirical study comprised:

a) Questionnaire

A comprehensive questionnaire was developed for this study to establish the perception of staff towards direct labour productivity at the Johnson Controls Uitenhage plant. The respondents included middle management at the Uitenhage location; operators of direct labour systems such as sewers and seat assemblers, as well as plant managers.

b) Sample

A sample of employees comprising machine operators, technicians, professional staff and management was selected. These employees (larger than 100) were a cross-section of Production, Supply Chain, Quality, Engineering, Finance, Human Resources, Continuous Improvement, Information Technologies (IT), Commercial and Maintenance staff, at the

Uitenhage plant. This sample also included staff of the head office entity which is located on the same premises.

c) Measuring Instrument

The literature, as well as the empirical findings, was combined onto a statistical measurement of the critical factors identified, such as the level of leadership in the organisation and the role it plays in creating a productive environment.

d) Statistical analysis of data

A survey statistician familiar with this type of problem was consulted to facilitate the interpretation and analysing of the data collected. Inferences were made to better understand the sub-problems and their influences relative to the direct labour productivity.

1.8.4 The Findings

The findings of this literature survey and empirical study were incorporated to evaluate the implementation of effective direct labour productivity strategies at Johnson Controls Uitenhage plant. Its usefulness will also be rolled out at all other South African plants.

1.9 OUTLINE OF THE STUDY

The study includes the following chapters:

Chapter 1 Introduction, problem statement and objectives of the study

Chapter 2 Factors that influence direct labour productivity

Chapter 3 Research methodology

Chapter 4 Analysis and interpretation of the results

Chapter 5 Summary, recommendations and conclusions.

1.10 SUMMARY

This chapter introduces the research problem to be studied. Six sub-problems have been associated with the main problem. The problem is delineated and an explanation is provided as to how the researcher intends to solve the problem.

Chapter two provides an overview of direct labour productivity and the factors that can be used and a strategy to implement it. This is the basis for comparison as to whether labour productivity has been successfully implemented at Johnson Controls Automotive South Africa (Pty) Ltd.

CHAPTER 2

FACTORS THAT INFLUENCE DIRECT LABOUR PRODUCTIVITY

2.1 INTRODUCTION

This chapter includes a number of literary sources covering the various factors, mentioned in chapter 1, influencing direct labour productivity.

2.1.1 Direct Labour Efficiency/Productivity

According to McMahon (2014), labour efficiency can be viewed as the measure of how efficiently a task is performed by a selected workforce. The duration of the task is compared to the standard in that industry or setting and based on this result, the workforce of the process would be considered to be either efficient or not. Direct labour efficiency can be measured in several different ways, depending on the type of services being delivered or the products being manufactured. Efficiency is periodically assessed in organisations, along with other attributes, to identify possible areas of improvement in the labour force, and in so doing improve the general quality of goods and services being delivered while containing costs to a minimum.

One way to look at labour efficiency is to make a comparison of the number of hours actually required to produce a given product or service with those usually required. If the workforce is producing products and services at less than the usual rate, it is considered to be operating with high efficiency, cutting time off production. This can translate into significant savings, as the organisation will spend less money on wages and overheads. It is turning out finished services and products at a more efficient tempo (McMahon, 2014).

According to Rahman (2007) productivity can be defined and measured in two different ways depending on the dimension adopted. The most familiar of these is direct labour efficiency, which is simply output divided by the number of workers or hours worked. The challenge with this method is that the output is not just a consequence of labour hours worked.

Rahman (2007) further states that where productivity is measured using the total factor concept, productivity captures the contribution to output of everything but labour and capital.

Factors such as innovation, managerial skill, leadership, organisational culture and even luck are considered to be contributors to the result.

Rahman (2007) warn that labour productivity should not be confused with marginal products of labour. A marginal product of labour relates to the degree in which the output results increase in relation to the corresponding incremental unit of labour applied to achieve this. Labour productivity is generally referred to as the same as the “average product of labour”; that is, typical output per worker-hour or per worker. Output or productivity can be quantified in either price or physical terms.

There is a notion that direct labour productivity is influenced by the environment created by the leadership and how they interact and are perceived by the people they are leading. The following section attempts to understand this relationship between leadership practices and direct labour productivity.

2.2 LEADERSHIP PRACTICES

Coetsee (2011) contends that a motivational climate is an environment within the company where personnel are aligned, dedicated, productive and satisfied. In this environment the manager-leader places more emphasis on leadership characteristics instead of focusing too much on the traditional management responsibilities and roles.

Coetsee (2011) further states that the manager–leader is responsible to ensure that personnel have the necessary knowledge in order to perform their work efficiently. The manager-leader has to ensure that team members are informed and are given autonomy in making decisions.

Dubrin (2010) offers that in order to create a team-based environment the manager-leader needs to perform certain key roles. These are:

- Coaching the members of the production cell
- Supporting and executing team decisions
- Motivating the team to perform at further improved levels
- Establishing a team identity.

According to Kellerman (2004), the above definitions lack two additional perspectives, namely the perspective of the follower and the moral perspective. Leadership is not a moral concept. There have been many instances where good leaders have been found to be corrupt and deceitful. The author also indicates that recently there have been increased expectations from 'followership', which has an effect on the perceived ability of the leadership to lead.

According to Lian (2011), the most significant leaders have a personality that is influential which positively impacts on the follower which in turn leads to a positive relationship with the follower, performance and job satisfaction. Leadership style can be viewed as the manner and approach of implementing plans, motivating people and providing direction. Once an organisation has appointed the human resources, there is the need to keep them together and maintain relationships. Every individual has his personal motivation for working for the organisation and this enabler should not be underestimated. The leader needs to adopt various approaches to ensure employees remain at work and feel motivated and satisfied. This will generate a higher level of valence which leads to employees to want to perform at their best. A fine balance needs to be struck to ensure that this is achieved without neglecting the overall corporate objective(s) of the organisation (Lian, 2011).

Tredgold (2013) is quoted as saying, **"**Often when leaders talk about increasing productivity, what they really mean is that they think people should work harder." Special care should be taken in dealing with this concept as it can be viewed as demotivating. Employees often view this as the demotivating, and interpret this as implying that they do not believe their teams are currently working hard enough. There have been numerous studies done on the impact of leadership on the productivity of an organisation. One needs to first identify the various form of leaderships based on the different leadership theories to have a better understanding of how this impacts on the productivity of an organisation.

2.2.1 Leadership Theories

There are many leadership theories, and a selection will be discussed below.

2.2.1.1 Trait theories

According to Kreitner & Kiniki (2010), trait theories are concentrated on identifying the personal individual characteristics that distinguish leaders from followers. In behavioural

theories, leadership is observed from a different perspective, where focus is placed on trying to understand the various behavioural leadership activities that culminated in a superior work group performance.

Kreitner & Kiniki (2010) further articulate that the disagreements concerning leadership derive from a complex interaction between the leader, the followers and the environment in which they find themselves. Some researchers have defined leadership according to personality and physical traits while others define leadership as a set of predefined behaviours. This perspective indicates that leaders apply their influential power to persuade followers.

Kreitner & Kiniki (2010) also contend that there are four similarities amongst the definition of leadership, namely: (1) Leadership can be viewed as a process between the followers and the leaders (2) Leadership comprises influence of a social nature (3) Leadership occurs at various levels in an organisation (4) Leadership is focused on accomplishing goals.

(a) Stogdill's and Mann's Theory

According to Kreitner & Kiniki (2010) research conducted by Stogdill and Mann in 1948 and 1959 respectively concluded that there are five characteristics that distinguish leaders from average followers:

- Intellect
- Dominance
- Self-assurance
- Degree of energy and activity, and
- Knowledge relevant to the task.

Cacioppe and Edwards (2005) indicate that initial research attempted to identify unique and dependable personality characteristics leaders possessed, but there was no conclusive pattern found. Recent studies have revealed eight key leadership traits that set leaders apart from non-leaders – these include the following, namely: self-confidence, determination, intelligence, sociability, honesty/integrity, emotional intelligence, conscientiousness and extraversion.

Kreitner and Kiniki (2010) state that traits play a vital role in how followers perceive leaders and that the organisation should consider these traits in selection of candidates for leadership positions. This can also be used as an effective tool in staff development for future leadership roles.

2.2.1.2 Behavioural Theories

(a) The Ohio State Studies

Kreitner and Kiniki's (2010) researchers generated a comprehensive list of behaviours demonstrated by leaders. Researchers highlighted that there were two distinct dimensions that are independent in leader behavior, namely consideration and initiating structure. Consideration deals with leadership behaviour associated with creating mutual respect or trust with a high regard for the group members' desires and needs. Initial structuring is actions initiated by the leader that coordinate and arrange what the group members should be doing to bring about maximum output.

(b) University of Michigan Studies

The researchers set out to identify the differences between behaviour styles of effective and ineffective leaders. Two different leadership styles were identified; namely employee centered and job-centered. The results of this study were said to parallel the initiating structures and consideration structures identified by the Ohio State Studies (Kreitner & Kiniki, 2010).

(c) Blake and Mouton Leadership Grid

Behavioural scientists, Robert Blake and Jane Srygley Mouton, designed a matrix and applied it to demonstrate that there is one most suitable behavioral leadership style (Kreitner & Kiniki, 2010). This matrix is based on two dimensions of the leader's behavior being activated when interacting with people. This relationship is demonstrated in a graph format where the horizontal axis of the grid is the concern for people and on the vertical axis is the concern for production. Depending on the situation the leader will adapt his approach and behaviour to achieve the desired result.

(Mouton, 2013) argue that the variables of the leadership grid are strongly influenced by attitudes and conceptual ideas, with behaviour descriptions obtained from and associated with the logical reasoning that lies behind the decision to act in certain manner. Leadership styles can be plotted on the axis on a scale of 1 to 9. The grid is used extensively as a training and consulting tool to diagnose and correct organisational problems (Kreitner & Kiniki, 2010).

2.2.1.3 Situational Theories

Situational leadership can be viewed as one of many transactional-based leadership styles. According to Cacioppe & Edwards (2005) these theories describe the major intention of the leader as to give direction and motivate followers to attain established goals. In this process the followers are being rewarded for their efforts in ways that are reasonable, fair and valued by the follower.

Situational theories suggest that the effectiveness of certain leadership styles is dependent on the unique situation. This challenges the thought that one given style of leadership is appropriate in any situation (Kreitner and Kiniki, 2010).

(a) Fiedler's contingency theory

According to Kreitner & Kiniki (2010), Fielder's theory is founded on the presumption that the leader's performance is dependent on two interrelated elements; namely, the extent to which the situation empowers the leader's ability to influence and control and the leader's basic inherent motivation ability.

Fiedler's contingency theory, states that the leader's characteristic style, as appraised by the least optimistic co-worker using the rating system, should be aligned with situational determinants favouring the respective leadership type, thereby improving the leader's probability of being successful. An argument is presented in that the reasoning behind the contingency theory is that when the circumstances are unfavourable the leader needs to be more assertive leaning more towards task orientation and direction, to get the group to shift towards attaining its objective. Alternatively, when the circumstances are more conducive, the leader is required to provide task direction for the cooperative group in general. In the second instance workers follow more willingly and the situation is not micro managed. In

somewhat favourable conditions, a more supportive relationship-oriented leader assists to smooth relationships within the working group. The leader further provides assistance as the workers attempts to deal with the unorganised activities (Harker and Sharma, 2000).

(b) Path Goal Theory

According to Kreitner & Kiniki (2010), the Path Goal theory of motivation is the base of the expectancy theory. Expectancy theory suggests that, as the attraction to increase the exertion of one's effort strengthens, the performance and outcome expectations improve. The Path Goal theory concentrates on the relationship and impact of how leaders' behaviours influence follower expectations. This theory was established by Robert House, who suggested the model that outlined how expectancy perceptions were affected by the contingent relationships between four leadership styles and numerous employee behaviours and attitudes. According to this theory, leader behaviour is agreeable when employees regard it as a satisfactory source. Additionally the leader's behavior is inspiring to the extent that it is perceived to assist employees in achieving goals. This support includes activities such as removing roadblocks that could prevent the group from achieving its goal. This also includes providing guidance and support to employees and relating meaningful rewards and recognition for achieving predefined objectives. Robert House views the leader's main objective as assisting employees to stay on the correct paths to achieve measurable and challenging objectives and to achieve appreciated and meaningful rewards. Various degrees of directive and supportive leadership are applied depending on the locus of control of the individual and the nature of the situation (Kreitner & Kiniki, 2010).

(c) Situational Leadership Theory - Hersey and Blanchard

According to Kreitner & Kiniki (2010), Paul Hersey and Kenneth Blanchard, management writers who developed this theory, stated that the readiness level of a leader's followers determined the effectiveness of the leader's behavior. Readiness is defined as the magnitude of the follower's ability and eagerness to complete an assignment. According to the situational leadership theory, the appropriate leadership style is determined by cross-referencing follower readiness with one of four suggested leadership approaches. These leadership approaches symbolise a combination of task- and relational-centred leadership behaviour. Leaders are heartened to adopt a telling style with followers who have a low

readiness orientation. Conversely, as the followers' willingness increases leaders are recommended to migrate gradually from a telling to a selling, from a delegating style to an ultimate participative approach (Kreitner & Kiniki, 2010).

Cacioppe and Edwards (2005) explain that the situational leadership theory of Ken Blanchard applies two measures of leadership, namely: directive and supportive, to demonstrate the four leadership approaches that are most suitable. The implementation of this construct will be dependent on the skills level of the person or group applying it and circumstances in the situation will also be a factor to consider. Blanchard highlights that a significant advantage of applying the situational approach is the acknowledgement that different leadership styles could be applied at various development levels and in different situations or scenarios. The implementation of these different leadership styles has been proven to be more effective. He proposes that when an employee is learning a new skill or task, it is more advisable to apply the situational leadership concept by being highly assertive by outlining tasks in a clear and precise manner. This is also regarded as a limited supportive role.

2.2.1.4 Transformational Leadership

Harker and Sharma (2000) state that transformational leaders inspire employees to operate at levels that they would not normally expect to function at. They motivate staff to focus on a superior level of achievements and reaffirm their self-confidence enabling them to achieve extraordinary assignments the leader identifies. According to Cacioppe and Edwards (2005), this approach extends a step further, in that it assists in lifting the follower beyond his personal aspirations and self-interest to concentrate on the achievements and goals which enable the team and the organisation to prosper. Transformational leadership permeates a vision that motivates and inspires staff to achieve unusual results. This leadership style has the capacity to align systems and people, so that there is integrity through the whole of the company towards aiming to achieve this vision. These leaders pay consideration to developmental needs and interest of the followers. Followers' paradigms are challenged in that they motivate individuals to look at old problems from a new perspective and they are able to lift and ignite followers to strengthen their valence to achieve team goals. The followers further appreciate and buy into the process, with the result that they take ownership of the vision. Should the transformational leader leave the organisation, the followers persevere with the initiative, as they have bought into the vision (Cacioppe & Edwards, 2005).

Numerous theories have been defined and discussed to better understand the leadership concept and how it impacts on transformation to improve the competitive edge of an organisation. This study will examine the theory of transformational leadership.

Transformational, charismatic and visionary leaders can adjust the status quo favorably in their respective organisations by demonstrating the appropriate behaviours at the most opportune facet in the transformation process (Eissenbach, Watson, & Pillai, 1999). According to Kreitner & Kiniki (2010), a meta-analysis of research pointed out that transformational leaders were viewed as more effective by both supervisors and followers, and they had followers who demonstrated a higher exertion to apply effort and reported superior levels of job satisfaction.

According to Sarros & Santora (2001), a significant distinguishing contrast between Transactional leadership and Transformational leadership is that the latter inspires workers to perform over and above the usual expectations. Eissenbach et al. (1999) concur that Transactional leadership arises from an exchange process between the leader and subordinates. Performances are compensated through which the leader contributes rewards in exchange for subordinates' compliance. The behaviour for Transformational leadership extends beyond transactional leadership in that it inspires workers to associate with the leader's vision beyond their personal interest in favour of the team. Stone, Russell and Patterson (2004) see the concept of transcending beyond self-interest as important for the organisation as it has numerous benefits. This process is, however, developed over time through engagement and commitment to the company's goals and objectives. Through the process of empowering, workers deliver an enhanced follower performance.

(a) Individual consideration

The concept of individual consideration encapsulates the critical behaviours displayed in the transformational leadership model, when interacting with individuals in the workplace. Leaders who adopt this leadership style demonstrate consideration for their workers' requirements and are persuaded to coach and encourage the desired workplace behavior (Sarros & Santora, 2001; Eissenbach, Watson, & Pillai, 1999). Personal attention is carefully selected by the transformational leader in order to focus on the individual worker's needs for achievement and development. In order to achieve this, the leader performs the role of

mentor and coach, thereby developing workers in a motivating and supportive climate to assist the individual to reaching a higher level of development and performance. Acceptance is acknowledged by the considerate leader, with regard to the fact that the follower is an independent individual, with his or her own needs, motives and aspirations. In order to do this effectively, the Transformational leader need to demonstrate sound communication skills together with effective listening skills. This will promote sound two way communication. These leaders cultivate followers by entrusting tasks and monitoring progress thereof, unobtrusively. Regular enquiries need to be made to determine if direction, support or advice are need. Transformational leadership behaviours and an individualised consideration approach cultivate empowerment of followers as a net result. Ultimately, transformational leaders have the potential of creating very strong influence over workers (Stone, 2004) Inspirational motivation

Organisational existence, rather than the leader's personality, is addressed by inspirational motivation. A key component of the transformational leadership style is making the workers aware of the mission of the organisation as well as its vision (Sarros and Santora, 2001; Eissenbach, Watson and Pillai, 1999). The transformational leader will serve as a motivational factor for workers and will be a source of inspiration by giving their work meaning and making it challenging. Team spirit is paramount in a display of enthusiasm and optimism. This type of leader builds relationships with followers by means of interactive communication, leading to a cultural bond between the participants. It also allows for a shift in values towards a common bond between the participants. Followers are inspired to see an attractive future with a shared vision based on expectations, commitment to goals and a shared vision. Idealised influence and inspirational motivation combine to form charismatic-inspirational leadership (Russell et al., 2004).

(c) Intellectual stimulation

Leaders who encourage creativity in workers and encourage them to accept challenges as part of their job do so by means of intellectual stimulation. Intellectually stimulating leaders are cool-headed and rational, keep their cool and work out the best way to deal with a problem while cultivating the same skill set in their workers. They use problem-solving techniques to reach a mutually beneficial decision for both leaders and employees, calmly and effectively. The intellectual stimulation leadership approach reflects the coaching and

morale-building strengths by taking the individual into consideration. These leadership approaches addressed above build character and organisational skills by caring, coaching and challenging (Sarros and Santora, 2001; Eissenbach, Watson and Pillai, 1999). Transformational leaders question assumptions and this stimulates their followers in their efforts to be innovative and creative. The followers' mistakes are not critiqued in public and creativity is wholeheartedly encouraged. These leaders request ideas from their followers and include them in solving the problem. The intellectually stimulating leaders emphasise rationality while encouraging their followers to try new approaches (Russell et al., 2004).

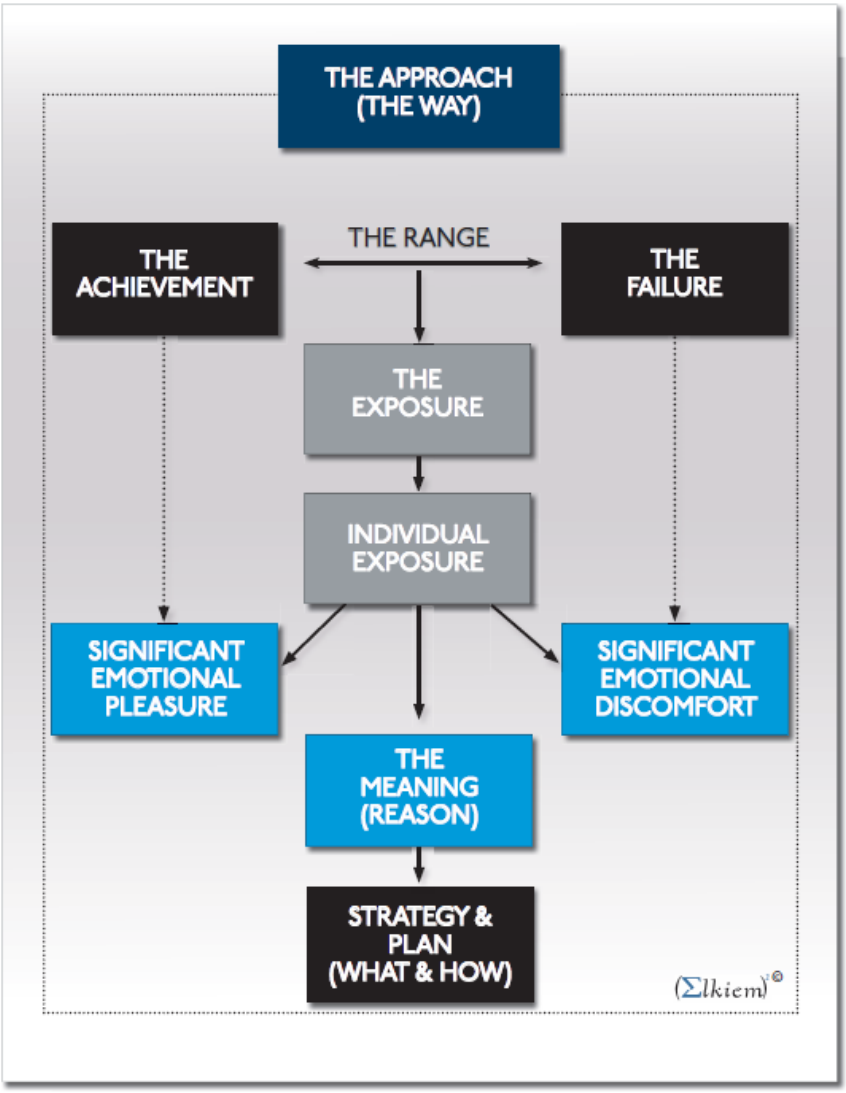
(d) Idealised influence

Behaviour that encourages followers to see their leaders as role models is called idealised influence, also known as charisma. The main ideology is to create values that inspire, that are meaningful and create a shared sense of purpose in people (Sarros and Santora, 2001; Eissenbach, Watson and Pillai, 1999). Russell et al. (2004) explain that this is the charismatic element of transformational leadership. Leaders are role models and are admired, respected and their actions and deeds emulated by followers. These followers have a lot of trust in these leaders, who show a marked level of ethical and moral conduct.

According to Limbey, Meikle and Berggren (2009) leaders must create a stimulating environment to improve performance in the execution of the duties of people within the organisation. Focus on productivity as a key driver is based on leadership capital rather than human capital. A better strategy as well as the improved contribution of individual performance will contribute to a better performance by the business. Limbey, Meikle and Berggren (2009) also state that high performance leaders get more from their people in terms of employee engagement, worker commitment and thus improved results.

People generally adapt to their environment both emotionally, physically, and mentally. This will mean subtle or significant shifts in behavior based on their environmental circumstances. There are research projects investigating the actual environmental circumstances that will stimulate an improved performance in human populations. Limbey, Meikle and Berggren (2009) has devised a high performance environmental structure (HPES) which describes the common concepts and components of high performance environments. This is depicted in Figure 2.1 below:

FIGURE 2.1: THE HIGH PERFORMANCE ENVIRONMENTAL STRUCTURE



Limbey, Meikle and Berggren (2009)

http://www.successfactors.com/static/docs/SFResearch_LeadershipDriveProductivity.pdf

In this module the author emphasises that the key to the implementation of organisational high performance is clarity & effectiveness. The work environment needs to define the performance status, direction and motivation which must be clear and effective to promote a positive performance outcome. The leader must provide this clarity. He must also ensure that the implementation is effective throughout the organisation to prevent any work environments from having goals and objectives without the drive to perform.

Some work places have ineffective systems that do not motivate the workforce to perform. The appraisal systems used in these workplaces are seen as bureaucratic processes and are not considered as a tool for performance exposure. There are sets of of 'effectiveness criteria' that need to be fulfilled to stimulate enhanced performance in the organisation.

Limbey, Meikle and Berggren (2009) believe that meaningful goals are very important and claim that a meaningless goal will not be effective as a stimulus for high performance outcomes. Goal Management is significant within organisations and individuals must understand how their individual goals and objectives align with those of the overall organisation. These objectives should encourage greater levels of purpose and meaning. Meaningful goals in High Performance Environments are critical to the success of these environments and will create performance pressure. Strong meanings are required to maintain enough pressure to perform.

Leaders must provide goals, measures and rewards to engage employees. It is important that they do not merely tick the boxes, but instead make concepts 'clear & effective' in their efforts to stimulate performance. A true High Performance Environment leader will maintain a reasonably narrow range of acceptable performance standards and will not allow low performers to maintain sub-standard performance levels over a long period of time. They must either improve or leave that environment.

High Performance is a leadership issue, not a human capital issue. Leaders who do not stay engaged with their HR leaders and leave the improvement of human performance to the HR department will miss a great opportunity. This can appear as a clouded priority in comparison to the latest product announcement, competitive threat or financial analysis but it is also considered the key to long term organisational health and differentiation.

Leaders are able to establish an accurate picture of their performance environment by using a combination of Success Factors best practices such as Goal Management,
SMART Goals, and Pay for Performance, amongst others, combined with the management discipline of the HPES Model. This provides some clarity on the next performance initiative required; to dramatically drive productivity (Limbey, Meikle, & Berggren, 2009)

The following steps are deemed critical for building a high performance environment (Limbey, Meikle and Berggren, 2009):

- Manage for both achievement and failure outcomes
  - ❖ Key, strategic objectives must be unified and aligned
  - ❖ What does failure or low performance mean, define clearly
  - ❖ Improve the perception of the quality required for individual performance measures — no hiding places
- Give the population reason to remain with the organisation
- Ensure the maintenance of a narrow range of acceptable performance standards
- High performers must be perceived as worthy of a greater share of the rewards
- Deal with low performers effectively
- Do a comparison between yourself and organisations that are perceived as a benchmark company or that are considered better than you.

2.3 EMPLOYEE ENGAGEMENT

In the second half of the current century, concepts like Total Quality Management (TQM) and Business Process Reengineering (BRP) were recognised as helpful tools in focusing on operational as well as process improvements with the view to increase organisational performance. Managers unequivocally agreed that this century demands productivity and efficiency at a heightened level and are grappling to find constructive ways of achieving this (Skerlavaj, 2007) Technological development has resulted in a change in the work force, from a skills and professional level, and management have realised that they have to adapt accordingly and can no longer adopt the totalitarian approach. Employees expect operational autonomy, status and job satisfaction. This resulted in the appearance of concepts like Organisational Citizenship Behaviour (OCB) and employee commitment. A productive and efficient workforce lies within the abilities and commitment of the employees and the manager's concentration is levelled at keeping the employee engaged. Employee engagement is a relationship between employee and employer that works both ways (KAUR, A study of Organizational Citizenship Behaviours, Organizational Structures and Open Innovation)

A study of almost two thirds of employees showed that they require growth and development to remain satisfied in their job. The Blessing White Study (2006) and Robinson (2004) show that feeling involved and valued is a key driver to employee engagement. Such aspects include job development, involvement in decision-making, verbalising ideas, and the knowledge that an organisation/management's concern is for the well-being and the health of employees.

Communication is a top priority (CIPD 2006), and employees should be able to discuss their views and ideas with senior management and management should keep the employee informed and updated on organisational changes. Vance (2006) stated that employee engagement is the consequence of personal attributes such as skills, abilities, knowledge, temperament, attitudes and personality, organisational context which includes leadership, physical setting and social setting and HR practices that directly impacts on the person, process and context components of job performance.

Research shows that it is more likely for the employer of engaged employees to exceed the revenue growth of the industry average.

The term 'staff engagement' is defined differently by various authors and organisations. According to Vance (2006), organisations adapt the definitions to address what is more important to them, but that there are common themes throughout the different definitions to incorporate employee satisfaction in their work and a feeling of pride in their employer. It is as important for people to enjoy their work and to believe in what they do as it is for an employer to value the contribution made by the employees.

Robison (2007) classifies employees as engaged, not engaged, or actively disengaged. Engaged employees work with passion and have a deep connection to the organisation. They are innovative and engage in moving the organisation forward. Employees that are seen as not-engaged are at work, but make no active contribution to the success of the organisation. They are not energetic or passionate and are merely at work because they are obliged to complete their time. Actively disengaged employees demonstrate their unhappiness in the workplace and undermine the efforts of those employees who are engaged.

Soloman Markos (2010) refers to the engagement of employees as a large construction that touches all the parts of human resources management. If any one part of the human resources function is not adequately addressed employees will not engage themselves in their job as a result of the mismanagement directed towards them. He further states that 'staff engagement' is constructed on the concepts of employee commitment, job satisfaction and the behaviour of a citizen of the organisation. He perceives employee engagement as broader concept where there is a defined correlation between staff engagement and positive organisational performance.

In a recent article Studer, Hagins & Cochrane (2014) indicated that there is a need to create organisational cultures that result in employee physical engagement and achieving organisational goals. Key emphasis is put on 'aligned' leadership goals and measurement to achieve organisational goals. The correct 'action' is required and 'accountability' needs to be enforced through transparent systems and processes. The study has shown that there is a strong correlation between engagement, quality and cost reduction activities. The below figure reflects the building blocks that were critical in their execution of engagement improvement activities.

FIGURE 2.2: EXECUTION OF ENGAGEMENT

Source: Healthcare Management Forum, 2014

Studer, Hagins and Cochrane (2014) documented that the building blocks for engagement are the following:

- A sense of urgency
- Transparency
- Common Values
- Leadership development
- Objective development system
- Making the “Why” connection
- Aligned communication
- Input into decisions
- Frequent goal measurement
- Feedback
- Reward and recognition

Organisations cannot achieve their goals without the combined effort of individuals, teams and managers. According to Bagraim, Cunningham, Pieterse-Landman, Potgieter, & Viedge (2011), there is a common thread in these definitions based on ‘discretionary effort’. For the basis of this study engagement will be defined as the effort of employees to apply discretionary effort in successfully achieving labour efficiency.

Pycraft (2010) suggests the following basic working practices should be implemented in the operation of the business to obtain direct labour efficiency:

- Total people involvement – staff are expected to perform a wide range of activities such as recruitment and liaising with suppliers and customers about quality and delivery information. Budgets and forecasts are reviewed on a regular basis to ensure that adequate actions are taken to ensure that targets are met.

- Quality working life – this includes employees being involved in making decisions, working in a fun environment and having a decent working area or facility

- Development of personnel – the objective is to equip personnel to deal with the challenges faced by the current competitive environment.

Paterson (2013) discusses the survey finding by a professional services company, Towers Watson, regarding organisations' plans to support long-term employees' value propositions. It states that the global organisations that use EVP mainly claim that their employees are more engaged. They claim that 59% of their respondents were using highly effective EVP's to drive employees behaviour that will deliver their strategy and as well become financially successful.

2.4 SKILLS DEVELOPMENT AND TRAINING

The combination of abilities, commitments, knowledge and skills to enable the effective actions of a person within a job situation is defined as competency. This indicates that a person processes sufficient knowledge and skills to act in any given circumstance or situation.

Competencies play an important role in the organisational learning process. They must be managed and direct action taken. Learning and knowledge are intrinsic processes in both individuals and organisations and cannot be managed directly. They can, however, be influenced directly and the organisational learning process and organisational memory can be measured. Generally, an assessment of competencies is fundamentally qualitative while production efficiency is quantitative. This complex phenomenon of competency is an evaluation of the performance of a person based on both expectations and certain perceptions. These perceptions will include client satisfaction and other positive measurable indices (Del Bueno, 2001)

According to Tamkin (2005), there is a strong link between skills and business productivity as determined by a number of influential research projects. The National Institute for Economic and Social Research (NIESR) did a number of well-known 'match plant' studies which compared the impact of development on productivity and workforce skills including investment in capital equipment and maintenance practices. There was a definite connection between the level of skills and the level of productivity. These studies confirmed that the greater the skills of a workforce, the higher the average level of labour productivity. This was especially prevalent in the intermediate skills level. The uptake of new equipment and maintenance showed an association to skills levels.

Haskel and Hawkes (2003) found that production of higher quality products was supported by higher skill levels and sophisticated production processes. Thus it has been suggested that greater productivity, innovation and a higher quality product is achieved by a better educated and more highly qualified

workforce. Training and development activity has been researched as an alternative to raising skill levels through recruitment.

There is evidence that training is beneficial to both attitude and motivation. Booth and Zoega (2000) believe that training helps attract good quality workers and fosters a firm culture. According to Green et al., (2000) who states that training resulted in a downward trend in employee turnover. IES discovered that the opportunity afforded to workers for training and development contributed significantly to employee engagement (Robinson et al., 2004)

Should training be embedded in the strategy of an organisation or is it enough to educate, skill and train? Training is the more highly regarded as an effective tool when associated with development policy and business strategy. Off site, extensive and formalised training appears to be more beneficial to individuals and organisations. Tamkin (2005) asserts that a substantial amount of evidence shows that one key element in the way that organisations invest in their people is through the development of skills, while pay roll systems, appraisal and communication mechanisms are other aspects that could also influence this relationship.

HR practices have been scrutinised to determine if they are also a contributing factor (HPWP's – high performance work practices). According to Tamkin (2005), HPWP are more generally linked to business performances.

Ashton and Sung (2002) list the following HPWP's as critical factors:

- There must be a support structure for employee performance which will target the achievement of organisational objectives and include training, mentoring, coaching and appraisal systems
- The employees must be involved in autonomous decision-making in the form of self-managed work teams and multi-skilling. This will allow the employee the opportunity to develop teamwork and decision-making skills.
- Employees must be rewarded and recognised for their contributions to business performance
- Information and knowledge must be effectively shared to enable enthusiastic employees to fully engage

These HR practices have positive effects on the performance of an organisation.

The Chartered Institute for Personnel and Development (CIPD) published a study that confirms the positive impacts between HR practice and performance. Furthermore they assert that employees must have the following to perform above minimal requirements:

- have the necessary knowledge, skills and ability
- be motivated to work well
- be afforded the opportunity to contribute and demonstrate their skills.

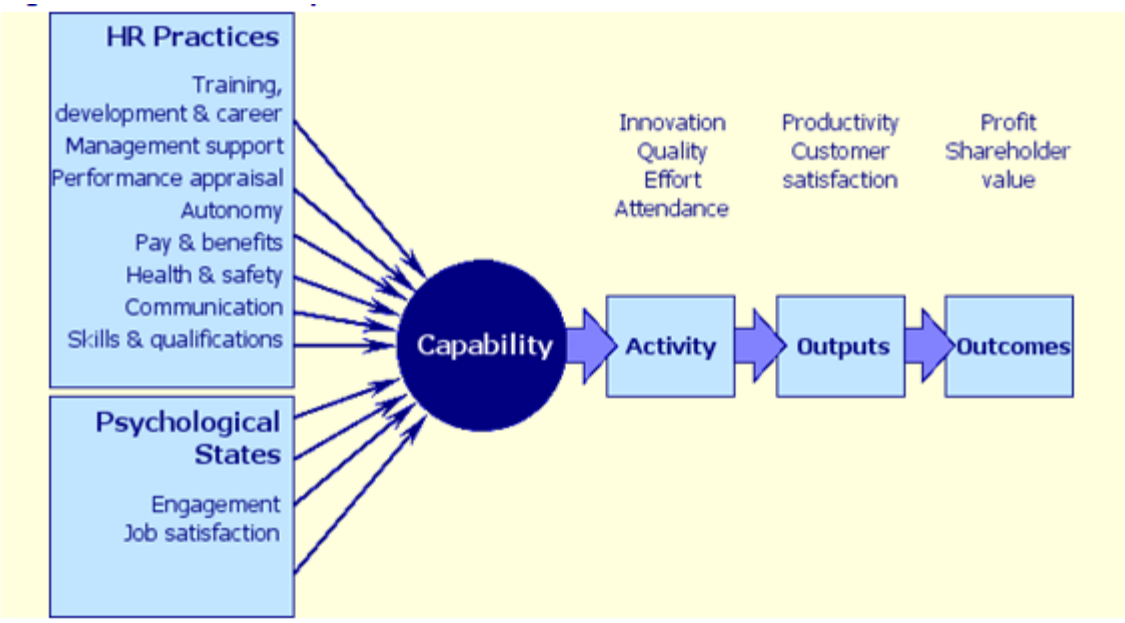
Managers play an important role in implementing these three elements into the HR practices in real terms (Purcell et al., 2003).

It is imperative to invest in people by means of training and development, applicable reward systems that allow the employees to share in the firm's success, as well as to assist in building an understanding of the aims and objectives of the organisation. These will all contribute to the success of the organisation.

In summation, Tamkin (2005) ascertained that skills make a dramatic difference to organisational performance. This can be improved through careful recruitment processes and internal training and development of the workforce. Management needs to buy into the process so both capture their motivation and enable them to apply themselves fully at work. The promise of skills can be utilised and turned into performance if there is good leadership and communication and meaningful jobs.

This chain of impact is represented in the diagram (Figure 2.3) below, representing a visual impact of events leading to favourable outcomes.

FIGURE 2.3: THE CHAIN OF IMPACT



Source: IES (2005)

2.5 ORGANISATIONAL COMMUNICATION

According to Opitz & Hinner (2003), the definition of communication is the "exchange of meanings between individuals through the common system of Symbols." Communication is seen as an interpersonal process and is critical in the day to day interactions in the workplace. The paper sets out to highlight the importance of effective communications and aims to demonstrate its impact, creating an opportunity to use this to advance its competitive position through improving its productivity.

Kukule (2012) looked at the inverse implication of not having a good communication system. A direct link was established between organisational weak performance and internal communication crisis. It was found employees felt undervalued and not trusted as they were kept in the dark about critical developments in the organisation.

Internal communication is a very complex process with an understandable impact on productivity.

According to Udegebe, Ahmed, Gaiyat and Rashdidat (2012), effective communication is critical for any success of the business as it has a positive influence on its performance.

Studies done condone that there is a clear link between the role of internal communication and its impact on employees' productivity. Opitz and Hinner (2013) assert that there is also a link between the advantages of effective and efficient communication on the profitability of the organisation. The challenge lies in that each organisation has a different environment and it is not always possible to offer the same solution to every organisation. It is thus important for each entity to find a solution that works for them in their quest to implement efficient and effective communication practices.

2.6 ORGANISATIONAL CULTURE

2.6.1 Definition of Organisational Culture

Werner (2007) and Werner, Bagraim, Cunningham, Pieterse-Landman, Potgieter and Viedge (2011) view culture as activities performed within a group, the thinking within the group , what they say and how they do things, and the standards depicted by their ideas, habits, morals, traditions, languages, material artefacts and shared systems of attitudes and feelings. These standards are, consciously or unconsciously, developed and passed on to subsequent generations. Hofstede (1980) views, culture as the collective programming of the mind which distinguishes members from one human group from another. Researchers refer to the behaviour patterns and standards that bind an organisation together as the culture of an organisation.

Coetsee's (2011) definition of organisational culture is to create the enviroment within an organisation and is based on the shared values, norms, beliefs and traditions that have been established over time in an organisation. The culture is what guides employees on how to conduct themselves as they carry out the affairs of that organisation and the goals and folklore that guide that particular organisation.

It is the set of shared values, beliefs and norms that influence the way employees think, feel and behave within their working environment (Schein, 2011). Although some organisational cultures encourage productivity, others do not.

There are four functions encompassed in the culture of an organisation; give employees a sense of identity, increase their commitment, strengthen organisational value and aid as a control mechanism for shaping behaviour (Nelson & Quick, 2011).

Organisational culture facilitates an acceptable solution to problems, which employees experience. Acceptable behaviour patterns and norms are reinforced that, promote high levels of achievement (Marcouildes and Heck, 1993).

Organisational culture affects the manner in which managers manage (and consequently shape employee behaviour) and affects the way in which the organisation processes its product and provides services to its customers.

According to Baramichai, Marangos and Zimmers, (2007) organisational culture can be perceived as a trait of the environment being experienced daily within the organisation. Robbins and Judge (2009) define an organisational culture as a system of shared meaning held by co-workers. This is how one organisation, a unique entity with different cultural dynamics, is distinguished from other organisations. These characteristics are a system of shared meanings which are valued by the organisation. Rashid, Sambasiva and Johari (2003) did a comparison of the culture within the organisation against that of the inherited personality of the individual. The authors also believe that an employee's behaviour is shaped by this system of belief and values.

2.6.2 Functions of Organisational Culture

Kreitner and Kiniki, (2007) state that organisational culture performs four functions; namely it gives the organisation an identity, facilitates collective commitment, promotes social system stability and shapes behavior. This framework assists the employee's understanding of why, what and how the organisation intends to approach its future goals.

2.6.3 Types of Organisational Cultures

A number of theories have been developed and researched to better understand what corporate culture is. There are three main organisational styles, according to Kreitner and Kiniki (2010): organisational culture inventory, organisational culture profile and compelling

value framework. The latter is considered the most widely used framework in classifying organisational culture.

2.6.4 Determining Organisational Culture

The culture of an institution is influenced or determined by various factors and are listed by Linn (2008) as a combination of its mission, its environment, socialisation to the organisation, information, organisation's strategy and leadership. Reiman and Oedenwald (2007) maintain that leadership are to the ones responsible for creating the environment that has a major role to play in creating the organisational culture.

2.6.5 Organisational Culture and Organisational Performance

Linn (2008) links the culture of an organisation with its success and believes that this should be no surprise as most financially successful companies have cultures that work towards serving stockholders, customers and employees. Kreiter and Kiniki (2010) use three perspectives to explain the types of culture consistent with an improvement in the performance of an organization:

The strength perspective uses the premise that a strong organisational culture will develop the motivation of employees, will assist with goal alignment and have the necessary structures and control in place to improve the performance of an organisation.

The fit perspective considers the importance of the alignment between the culture of an organisation and its strategic or business context. The organisational culture will reflect the performance required to fit within the appropriate context.

The adaptive perspective considers the flexibility of a culture to adapt to a change in environment and to adapt to this change. This adaptability will lead to an enhancement of performance on a long term basis.

2.6.6 Organisational Culture and Change

Linn (2008) states that any changes made to an organisation will only be accepted within the context of understanding the current culture. It is not easy to understand each branch of an organisation's culture and leaders are more focused on the substantive issues relating to the changes. It is more likely that the political and cultural aspects of a change will determine its success or failure rather than the substantive issues. He believes that the more aligned the culture, the more difficult it would be to make changes that go against it.

2.6.7 Effects of Organisational Culture

Organisational performance, the job satisfaction of employees and problem-solving abilitities can be enhanced by the organisational culture (Kotter, 2012). The organisation's effectiveness can decline if the stakeholders in an organisation have changing expectations that are not congruent to the organisational culture (Ernst, 2001). Thus organisational culture and performance are clearly dependent and related to each other (Kopelman, Brief, & Guzzo, 1990).

Employee behaviour and performance is summarised based on four key ideas (Bulach, Lunenburg and Potter, 2012). Firstly, it is important to get to know the culture of the organisation so that this will give the employees an understanding of the organisational history and the current method of operation. This will guide employees on expected future behaviour. Secondly, it is necessary to foster commitment to the organisation's philosophy and values based on the organisational culture of shared feelings and working towards common goals. Employees of an organisation must share values to be effective. Thirdly, the norms of organisational culture serve as a behaviour control mechanism to channel behaviours toward desired behaviour and away from undesired behaviour. This can also be accomplished by recruiting, selecting and retaining employees whose values best fit the values of the organisation. As a result there is a distinct relationship between the type of organisational culture and greater effectiveness and productivity.

A supportive organisational culture is a prerequisite for the implementation of lean manufacturing and its success (Shehab, Achanga, Roy and Nelder, 2006). Based on the research done, high-performing companies have a culture of sustainable and proactive

improvement with managers who have the ability to operate in diverse environments. This indicates that some degree of communication skills, long-term focus and a strategic team are necessary to implement any new initiative. This is inherent in most large organisations, regardless of their cultural model or perceived success. These are imperative critical factors to determine the success of a lean project and various responses from interviewees clearly show that these four factors can be expanded into more details as follows.

Management must have a clear vision and strategic initiatives, good level of education and the willingness to support productivity improvement initiatives like lean manufacturing. This forms part of the leadership element. The organisational culture criteria include management's ability to operate in a diverse environment, with a long-term focus on their roles and easy acceptance of change. Financially, the criterion includes the availability of funds to enable capital investment and strong financial management. The recruitment and enhancement of a capable workforce through provision of training and innovation will fall under the skills and expertise criteria.

2.7 SUMMARY

Chapter two dealt with an overview of labour productivity and elaborated on some of the factors that contribute towards it. The factors on direct labour productivity discussed included leadership practices, organisational culture, employee engagement, communication and skills development and training. It discusses different leadership models of the subject matter and provides illustrations of topics introduced.

Chapter three will discuss the research methodology used to conduct the study. It also outlines the research design, techniques for data collection, construction of the questionnaire, the sample and analyses the biographical responses.

CHAPTER 3
RESEARCH METHODOLOGY

3.1 INTRODUCTION

The previous chapter reviewed literature concerning theoretical and empirical information pertaining to the primary research approach and secondary objectives with the object of improving employee productivity at Johnson Controls.

In this chapter, the research methodology applied will be discussed. According to Leedy (2012) research is a systematic process of gathering, analysing and interpreting data (information) to increase the understanding of the phenomenon in which the researcher is interested.

According to Collis and Hussey (2009), methodology is a technique used to collect data systematically, followed by the analysis of the assimilated data. This research approach describes the process of how the research will be conducted and suggests various methods that can be selected. The authors further state that the researcher should formulate a comprehensive conceptual model in the form of a road map.

Creswell (2009), in turn, defines research methodology as the philosophical framework that offers the researcher the necessary authority to collect information and establish the reliability and accuracy of the survey. He is also of the opinion that research methodology is a strategy to investigate the fundamental philosophy that drives the research design and gives direction to the process to be followed in the collection of data.

This chapter reports on research design, the research paradigm, the sample selection methodology, the data collection process to be followed, measuring instruments to be applied and data analyses adopted in this study. The validity and reliability measures implemented will be discussed as well.

3.2 RESEARCH APPROACH

Three different types of research approaches can be distinguished, namely exploratory, analytical and descriptive research.

The first element, exploratory research, is an investigation into a specific research problem or occurrence where either there are no previous studies or limited research has been conducted previously to which data can be compared with reference to the problem being researched. Hypotheses are generally developed as an after effect of such investigation, rather than the research being guided by hypotheses.

Descriptive research gives an account of a phenomenon as it existed at the time of the research being conducted. This approach is applied to identify and secure information on the attributes of a particular dilemma or problem.

The third element, namely analytical research, extends beyond simply just describing the attributes observed, but analyses the information and attempts to explain why or how certain events are happening. The objective of this approach is to have a deeper understanding of the researched phenomena by identifying and measuring the causal relationship between the two constructs Collis and Hussey (2009)
Mouton and Marais (1990), outlines a framework for the purpose of exploratory research and suggest the following:
To gain a new understanding into the phenomena;
To commence a pilot study before a more disciplined investigation is performed;
To develop the fundamental concepts and constructs;
To identify priorities for ensuing additional research;
To formulate new hypotheses concerning a phenomenon that already exists.

3.3 RESEARCH METHODOLOGY

Collis and Hussey (2009) contend that there are two primary approaches established in research, namely: the positivist also referred to as the quantitative and the phenomenological, alternatively known as the qualitative approach. The qualitative research approach is based on a philosophical framework that illustrates how a scientific

study should be controlled and directed (Collis and Hussey, 2009). A scientific exploratory study could be located on a continuum ranging from either of these research approaches.

3.3.1 The phenomenological research paradigm

According to literature the qualitative approach was first designed and conceptualised by Edmund Husserl during the 1890s. The purpose of his research was to understand the true meaning of actions performed and experienced by human beings. This was considered to be the true source of gathering information (Bryman and Bell, 2007). Different approaches are used in qualitative research paradigms to explain, understand and interpret the observed experiences and behaviour of humans during direct interaction (Binza, 2009).

Collis and Hussey (2009) describe the qualitative approach as a process where the researcher gathers data from a small representative sample selected from a larger group or population. The data collected is then reviewed from a low reliability and high validity perspective. This approach is referred to as the interpretative approach, and its main distinguishing factor is that it views every event as a unique incident and it is viewed as a preliminary process to understanding the social phenomena in a particular situation (Sekaran and Bougie, 2010).

Reference is also made to the qualitative research approach as being an interpretative, constructivist, or post-positivist approach. This research approach highlights the subjective aspect of human behaviour by focusing on the meaning that drives the behaviour rather the measurement of a social phenomenon (Collis and Hussey, 2009).

Phenomenological research is a method of research, whereby the researcher identifies the core of human experiences about a phenomenon as is depicted by the participants. This paradigm accentuates the importance of individual perception and interpretation. According to Creswell (2009:13), understanding the actual lived experiences marks phenomenology as a philosophical construct as well as a method.

With qualitative research, participants can give an account of their real life experiences, developing an appreciation for the reason behind human behaviour in the situation. The researcher collects data which is sensible and subjective to context and the nature of the variables are explored without dealing with numbers. The researcher can theorise, using the assumptions deduced from the research observations.

The relevant methods utilised when conducting qualitative research include interviews, evaluation of focus group conversation, casual observations and experimentation. The research should be a collective process, with the data from the participants being critically analysed and validated by others, in order for it to be considered true and acceptable. Qualitative studies involve unbiased field research, using small sample sizes to collect data which is significantly situational in nature.

The qualitative research approach should be viewed as a collective process, with data from the respondents being scrutinised and validated by others, in order for it to be considered and accepted as being true. The qualitative research approach includes uninfluenced field research, using small sample sizes to collect data which is significantly situational in nature. The researched data is viewed to be high in validity and low in reliability.

3.3.2 The Positivistic Research Paradigm

The positivistic criterion circumscribes a process whereby inferences are deduced for the purposes of measuring explanatory theories to better understand the reality of social phenomena. This approach offers less consideration for the subjective attributes of human behaviour Collis and Hussey (2009). In this approach the researcher adopts an objective point of view, which is uninfluenced by the physical and social reality. This paradigm expects the researcher to propose a theory, which must be tested in controlled settings, and empirically accept or reject hypotheses through the process of experimentation. Positivistic research types can include cross-sectional studies, experimental studies, longitudinal studies and surveys (Cooper, 2006).

According to Storkerson (2010) various methods can be used for positivistic research examination. French philosopher August Comte first established and developed the positivistic paradigm as a theoretical idea. It was important to emphasise that true knowledge incorporates questioning and the description source.

The quantitative data according to Cooper and Schindler (2011:164), most often consists of coded, categorised and quantified responses from participants. A controlled environment and repeatable observations are key requisites for this research method. The exact collected empirical data is often manipulated for statistical analysis purposes. This data collection approach includes mail surveys and questionnaire studies, which are followed by hypothesis testing and statistical examination. Positivistic research differs from the phenomenological research paradigm by producing very reliable results but with low validity (Collis & Hussey, 2009).

Creswell (2009) concurs that the quantitative research approach is a standard experimental method adopted in most scientific disciplines. This experimental method applies traditional mathematical and statistical computations to measure accumulated data collected from respondents. A standard format is adopted to prove hypotheses in quantitative research. According to Evans (2010), the quantitative research approach is adopted to assist in making decisions on research areas to be explored further.

Collis and Hussey (2009) state that the quantitative approach needs a large enough representative sample of data to ensure that the findings have a high reliability but low validity content.

When conducting research the researcher must give consideration to the positivistic or quantitative paradigm to be adopted, while investigating and identifying the critical factors that could have an influence on direct labour productivity. This approach is most appropriate in measuring the relationship between the observed variables and the collated responses, which have been assimilated via a measurement instrument which is

a usually a questionnaire or survey. This positivistic paradigm is adopted to avoid a participant's responses being biased.

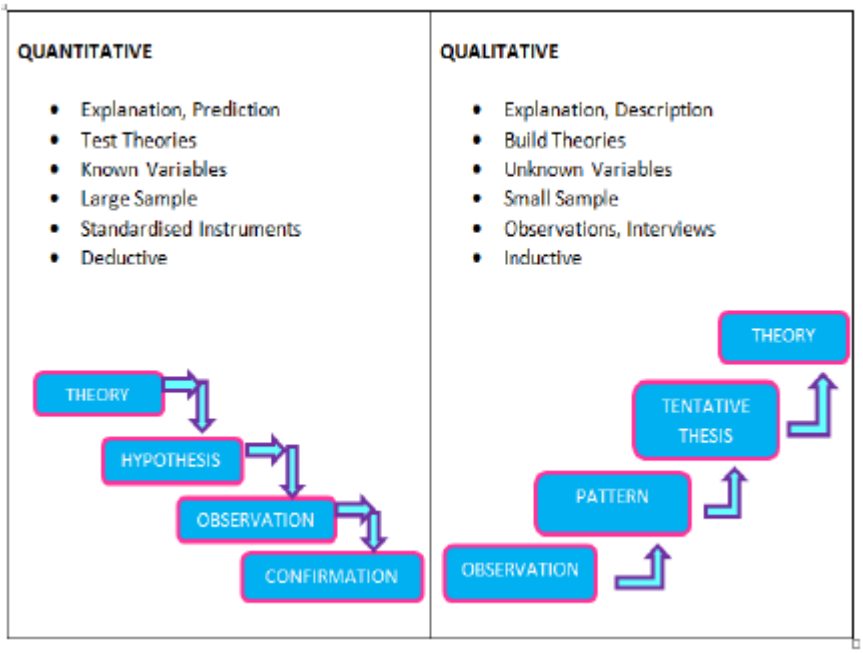
3.4 COMPARING THE RESEARCH APPROACHES

According to Leedy (2012), the distinction between quantitative and qualitative research does not necessarily imply that these approaches are mutually exclusive or that either one or the other has to be applied by the researcher in a particular study. It is possible for the researcher to combine certain elements of both approaches in one study.

Figure 3.1 demonstrates the differences between quantitative and qualitative research which are designed to address or explore a specified research question. The researcher would consider both methods to investigate and explore the accumulation of knowledge through the different processes depicted in figure 3.1. Either one of these methods can be adopted or a combination of the two approaches can be applied, depending on the research question and research scope.

Figure 3.1 follows below.

FIGURE 3.1 RESEARCH APPROACHES



Source: (Gerber, 2011)

Quantitative research methods are used to evaluate and make a statistical analysis and inform the participants about the purpose the research and interview process.

3.5 RESEARCH METHODS FOR THIS STUDY

The researcher tried to ensure that the primary problem and the secondary problems highlighted in the first chapter were satisfactorily answered. This was done through study from journals, books and internet sources. The rest of the study was based on literature from Johnson Controls' internal information sources such as policies, work instructions, local intranet and various reports and resource suppositories within the organisation.

3.5.1 Paradigm Choice

The study will be located in the positivistic paradigm using a quantitative method to establish the relationships between the factors identified that may have an impact on the outcome of direct labour productivity. A survey questionnaire was distributed to management, support staff and direct employees. The opinions collected are subjective but the impact of this will be reduced by translating the responses into empirical data.

3.5.2 Empirical design

The empirical research was conducted in the form of a questionnaire, which was distributed to a sample of employees working mainly in the Uitenhage Just in Time (JIT) plant production areas. The questionnaire was also distributed to a large number of plant support staff based in the head office building which is also located on the same premises. It was felt that these employees worked closely with the plant and contributed to the direct labour productivity in their respective centralised support functions.

The questionnaires were distributed to the various departments such as production, supply chain and logistics, quality, engineering, finance, human resources, continuous improvement, IT, commercial and maintenance.

3.5.3 Sampling design

According to Creswell (2009), sampling is a process used to select a suitable representative portion from a large population which is guided by the parameters for investigative studies. Two categories of sampling were identified; namely: probability sampling, also known as “objective” sampling and non-probability sampling, also referred to as “subjective” sampling. Random sample selection is adopted in probability (objective) sampling while non-random sampling is applied in the non-probability (subjective) sampling process. Creswell (2009) describes a population as a large group of randomly selected survey participants which may be selected from large group of individuals or items. The basis for the selection will be guided by the nature and scope of the research. According to (Shehata, 2010) a population is a group of selected facets with characteristics that are similar. A representative sample is extracted from this group based on the research objectives.

Evans (2010) agrees with the categorisations of these two groups of sample designs. The group of sample design is referred to as probability and non-probability sampling methods. It should be noted that probability sampling, also known as random sampling, is made up of systematic and stratified sampling.

Evans (2010) further states that non-probability or non-random sampling includes convenience sampling, snowball sampling, quota sampling and judgment sampling. Chambers and Skinner (2003) confirm that non-probability sampling is subjective because many areas of the population will not have any probability of being selected or being represented in the sample.

A probability sample is naturally deemed to be objective because every possible element in the population has an equal chance of selection in a sample. This probability is considered to be a more accurate base for decision making. A sample where the probability of not being selected is nil, is referred to as a non-probability sample (Chambers & Skinner 2003).

Stratified sampling is a type of probability sampling that is applied when the total population of the target audience is separated proportionally and into homogeneous sections known as strata. The researcher selected the sample from each homogeneous section. All the selected samples from the numerous strati were consolidated to form one big targeted sample. This sampling procedure is sometimes referred to as "quota random sampling."

Leedy (2010) proposes a number of guidelines for selecting a sample based on the population size. He suggests that numbers are randomly chosen for small populations. In the case of a larger population a table may be applied to select the sample. A sample should be large enough to ensure the extreme values are represented in the sample. This will ensure that the findings are not adversely distorted. This sampling method is referred to as a random sampling method (Collis and Hussey, 2009).

Collis and Hussey (2009) emphasise the importance of conducting a pilot study. This is to test the quality and practicality of the questionnaire before it is distributed. The pilot study will test for any potential weakness in the design of the research. Blumberg et al (2008) proposed that the pilot study be directed to target respondents including processes and procedures identified in this study. They also recommend the use of at least five pilot respondents. In this study, a total of 10 respondents were selected for the pilot sample run. This pilot group consisted of eight hourly paid employees and two management staff.

Thereafter, the stratified sampling method was applied to ensure that the members of population are proportionately represented.

The researcher identified Johnson Controls as the organisation to be studied. The population in this instance was the staff positioned in the Uitenhage JIT facility together with employees from support functions situated at the head office, which is located on the same premises. The sample selection was targeted to participants accordingly. In view of the fact that the population was already known to the researcher, the non-probability sampling method, namely convenience sampling, which is also known as purposive

sampling, was applied. The stratified sampling method was applied in selecting the head office support functions that interacted with the Uitenhage plant. The participants targeted by the researcher were easily accessible. The researcher is of the opinion that the sample selection of 80 participants in this study was sufficient to conduct the survey. Based on this approach, the researcher is confident that the findings would reflect data which is representative in the following aspects; reliable, accurate, valid opinions and experiences of the targeted audience.

The sampling strategy was directed to the manufacturing line JIT divisions and to the head office and support staff directly responsible for this plant. Respondents were chosen from the selected groups within the various levels and functions. The sample selected included departmental functions such as Production, Supply Chain, Quality, Engineering, Finance, Human Resources, Continuous Improvement, IT, Commercial and Maintenance.

The number of the sample was limited by the fact that there are only 208 employees at Johnson Controls Uitenhage facility. Due to a relatively small population size, a sample size of 83 employees was used as a 40% marker of the population. The questionnaire was sent to 90 employees to compensate for lack of responses. This was deemed achievable considering the total number of employees. As the head office facility is also based in Uitenhage they were also requested to understand their perception regarding the topic. The head office facility supports the plant closely in various departments such as human resources, finance, purchasing and logistics departments. This sample size was expected to be 23 respondents out of a population of 36 which is included in the 40% mentioned previously.

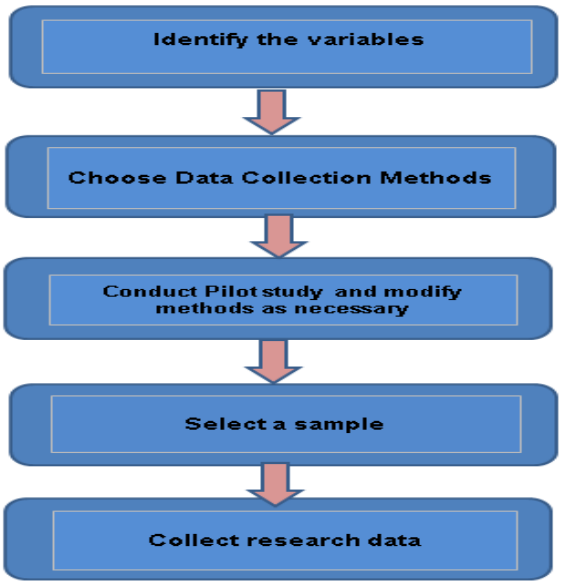
3.5.4 Data Collection

Collis & Hussey (2009) identify two main sources of data collection, namely: primary and secondary. Primary data is collected in an uncontrolled situation in the form of questions and observations and is collected at the source or environment being researched. Secondary data consists of readily available information that has already been collected in prior studies.

Researched data for this study was gathered through primary and secondary data collection methods. Primary data collection for this study was collected in the form of a self-designed questionnaire; which was distributed to a sample of Johnson Controls employees, based at the Uitenhage plant. The secondary data collection was collected by means of a review of literature by means of journal articles, books, media articles and the internet.

Collis & Hussey (2009) suggest that the qualitative analysis methodology is applied in this research, to collect data relative to the variable being studied. A detailed data analysis of the results of the questionnaire was applied. See figure 3.2 which reflects an overview of the data collection process suggested. This process was adopted in this study.

Figure 3.2 Overview of the process of collection of data



Source: Collis & Hussey (2009:188)

3.5.4.1 *Validity*

Validity is the degree to which an instrument accurately measures the intended purpose of assessing specifics attributes of the data being researched. Validity is based on the supposition that the research can be measured or collated, both truthfully and accurately. Conclusions and findings drawn from data must show that the results and conclusions are

trustworthy and that the methods applied substantiate and reaffirm the conclusion reached (Hesse-Biber, 2011).

Collis & Hussey (2009) are of the opinion that where accurate research findings represent the actual situation the results could be accepted as being valid. The validity assurance is achieved when the research findings accurately represent the true situation as it is being experienced. The following types of validity have been identified by Cooper (2011)

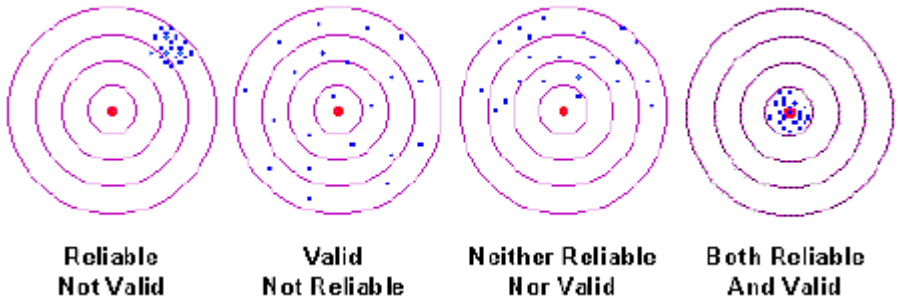
- Criterion-related validity is the magnitude to which the predictor is adequate in getting the relevant aspects of the variable.
- Content validity is the extent to which the capacity of a measurement tool is adequately representative of the macrocosm of all relevant variables in the inquiry.
- Construct validity measures phenomena which are not immediately observable, such as motivation, satisfaction, ambition and anxiety. With these hypothetical constructs the researcher is required to establish the degree to which an instrument is able to provide evidence based on the hypothesis.

Construct validity is made up of two sets of validity; namely convergent validity and discriminant validity. Data that correlates with another set of data, where there is an expectation to correlate on theoretical grounds, is considered to be convergent. Discriminant validity in turn, occurs when the same set of data does not correlate with a second set of data as expected. When this occurs it is then necessary to conduct an exploratory factor analysis (EFA) to assess the discriminant validity of data sets. These are treated as separate factors or constructs.

According to Saunders (2009) validity is the genuine representation of the concept and the extent to which the measurement instrument results concur with the concept being tested. It is further stated that validity represents the ability of a scale to measure what it intended measuring. (Zikmund, 2010) made a distinction between internal and external validity. Internal validity is guaranteed through an internal investigative framework that is based on cause and effect principles, while the external validity is based more on

generalisation. Zikmund et al (2010) emphasise that there are four scenarios of possible situations. This is best depicted by the diagram (Figure 3.3) below.

FIGURE 3.3 RELIABILITY AND VALIDITY ON TARGET



Source: Adapted from Zikmund et al (2010)

An analysis relative to validity and reliability of the data collected from respondents, using this measuring instrument, has been done and verified to ensure that the results could be used for research purposes. This study was conducted by applying the quantitative approach. According to Saunders et al (2009) this type of quantitative research relies significantly on deductive reasoning. Results were analysed via statistical techniques that included basic descriptions of the variables involved, to developing statistical relationships between the variables via a complex statistical model.

The questionnaire was assessed by two experts on this subject and a pilot study was completed to assess validity.

3.5.4.2 *Reliability*

Leedy (2012) outlines the concept of reliability by means of measuring the consistent performance of the measuring instrument. The reliability factor of the questionnaire will be assessed by means of Cronbach's alpha coefficient. The objective of this excercise is to achieve a coefficient target level of equal or greater than 0.6, which is considered to be an acceptable reliability level.

Tavakol (2011) refer to reliability as the key issue of detecting and analysing the credibility and accuracy of the findings. It is the assurance that data is consistent, relevant and

valuable when the results are reused applying a similar methodology. They refer to reliability as being concerned with internal consistency. This implies that should data be collected, measured and generated, it would generate the same results under repeated trials.

The reliability of the investigated data collected from participants will give an indication of the stability, consistency and authenticity of the measuring instrument. This is validated when different users of the given instrument should obtain similar results when applying the instrument on a separate occasion (Jackson, 2008).

Reliability is the main contributing factor to ascertain the credibility of the research results as well as to authenticate same (Sekaran, 2010).They further state that it is imperative for the measuring instrument to be able to support a measurement that is accurate, stable, free from error and deemed consistent from within.

According to Collis and Hussey (2009), a reliable study is affirmed when research information can be applied as a reference and referral basis for further study which will lead to similar results and implications. Saunders et al (2009) agree with Zikmund et al (2010) that there are four categories of reliability estimates which can be applied in different ways. These four methods are discussed briefly below:

The determination of stability/test-retest method

The test-retest method signifies the repeatability measure of the study. It is utilised to find out the stability of the results by checking the results at two different periods in time, relative to the same respondents to assess the consistency of the responses. The test results should be more or less the same if the test is conducted again under the same conditions. This consistency is the basis for determining the measure of reliability (Zikmund et al, 2010).

The determination of equivalence / split –half method

In this method a comparison is done on one half of the items from a scale and comparing this to the results of the other half. This is done as a basis to test reliability of the data.

Similar results with a high correlation should be produced to prove reliability. The challenge with applying this method is to determine the basis on which to split the two halves (Zikmund et al, 2010).

A combination of the stability and equivalence approached / Cronbach's alpha

Cooper and Schindler (2008), state that reliability coefficients are measured on a scale of 0 to 1 to determine the stability amongst multiple measurements. Zikmund et al (2010) refer to the Cronbach alpha as the coefficient alpha most frequently used as a measuring scale if the questionnaire is based on a Likert scale. This is also the method that was applied in this particular study. According to Zikmund et al (2010) the application of the coefficient by different respondents is used to assess the extent of consistent estimations of the same phenomenon, which is viewed as being either acceptable or unacceptable. The reliability of the study is validated by the Cronbach's alpha score, despite the convergence of different items.

According to Zikmund, et al (2010), good reliability is achieved by attaining a Cronbach's alpha score of above 0.80. If the score is below 0.60 it is considered a poor result. Alternatively if it is determined to be between 0.60 and 0.69, it is deemed to be a fair result. A score of 0.70 and 0.79 is regarded as good reliability.

3.6 MEASURING INSTRUMENT

A questionnaire will be used to measure perceptions about what the key drivers are that influence direct labour productivity. The proposed study investigates the relationship between the independent variables selected; namely organisational culture, leadership practices, communication, employee engagement and skills development and training, applied relative to the dependent variable, direct labour productivity.

Leading and double–barrelled questions will be avoided to minimise false positive responses. The questionnaire (Annexure 2) includes a number of self-constructed questions in combination with extracts of questions from the literature offered by Coetsee (2011). Terminology and questions were explained in a separate letter to the respondents,

together with a short briefing to ensure an increased understanding of the questionnaire. Short and concise questions were applied.

3.6.1 Questionnaire construction

Questionnaires can be viewed as an pre-arranged interview where respondents are presented with questions that are uniform in nature and offer the same options in answering the questions; for example yes/no, or responses could be gauged via a rating scale to assess respondents' views on a particular topic. According to Hofstee(2006) some of the advantages that questionnaires have over verbal interviews is that they provide the respondents with a measure of confidentiality. A further advantage of selecting this method enables quantitative results to be converted and analysed more easily. Additionally more volumes of questionnaires can be distributed and completed, which in turn raise confidence in the results.

The design of the questionnaire is outlined as below:

Section A of the questionnaire covered the biographical information of the selected sample. This section included data such as the age, gender, education, department, and position at Johnson Controls, how long they have worked for the company and requested what the qualifications levels were. Section B provided an overview of the importance of productivity performance and it also tested the respondents' understanding of the impact of the sub-problems on direct labour productivity.

A Likert-type five-point scale ranging from (1) 'strongly disagree' to (5) 'strongly agree' was used. Below is a demonstration of this scale:

Five-point Likert Scale	**Question 1**
1	Strongly agree
2	Disagree
3	Uncertain
4	Agree
5	Strongly agree

- "Strongly agree" which scored a mark of five to reflect an absolute consent with the statement.
- "Agree" which scored a mark of four to show satisfactory consent with the statement.
- "Uncertain" which scored a mark of three to demonstrate a degree of neutrality.
- "Disagree" which scored a mark of two to reflect a moderate disagreement with the statement
- "Strongly disagree" which scored a mark of one to show absolute objection to the statement.

Permission was obtained from the plant manager of the facility to conduct this survey during the work day. This was made possible by allowing the respondents a short break in order not to disrupt operations. The human resources manager was consulted to obtain permission for the support function in the head office location (See Annexure 4).

3.6.1.1 Steps in constructing the questionnaire

(J. Francis) suggest the following steps in constructing a questionnaire, namely:

- Establish what your requirements are.
- Consider the preferred response format for your questionnaire.

- Ensure that you have a frame of reference for your respondents.
- Write the questions down.
- Construct a summary.
- Complete the pilot test questions and revise them.
- Collate the questionnaire; and
- Hand out and administer the questionnaire.

3.6.1.2 The Questionnaire structure

Leedy and Ormrod (2005: 190) advise that the construction of a questionnaire can be rather difficult and complex. They suggest that the twelve guidelines listed below, could assist in the process of constructing the questionnaire:

- The questions should be relatively short.
- It is important to use simple, clear language. Do not use ambiguous language.
- Ensure that assumptions are not implied in your questions.
- Do not give clues about more desirable or preferred responses.
- Check the questionnaire for consistency.
- Determine a code mechanism to evaluate the responses in advance.
- Ensure that the respondent's task is simple.
- Clear instructions need to be provided.
- Provide a rationale for any possible unclear items.
- The questionnaire must be polished and look professional. The use of a pilot test could be applied to achieve this.
- Ensure that the final product will meet your needs for the data to be studied.

The structure of the questions presented in the questionnaire is very important. If the questions are not structured properly the respondents could misinterpret the questions or it might lead to some confusion amongst the respondents. The questions selected in this study were closed-ended questions in the form of a matrix. The answers provided included all possible expected responses. Respondents were only allowed to choose one answer.

3.6.3 Hypotheses

The following relationships that were tested are:

H0 There is no relationship between organisational culture and direct labour productivity
H1 There is a relationship between organisational culture and direct labour productivity

H0 There is no relationship between leadership practices and direct labour productivity
H1 There is a relationship between leadership practices and direct labour productivity

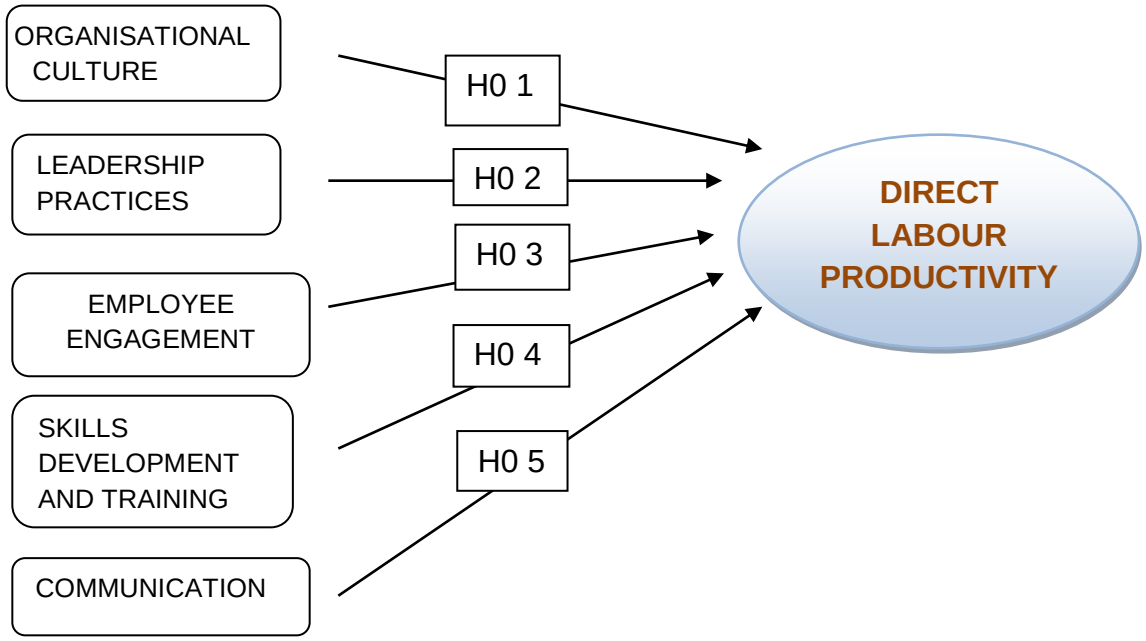
H0 There is no relationship between employee engagement and direct labour productivity
H1 There is a relationship between employee engagement and direct labour productivity

H0 There is no relationship between skills development and training and direct labour productivity
H1 There is a relationship between skills development and training and direct labour productivity

H0 There is no relationship between communication and direct labour productivity
H1 There is a relationship between communication and direct labour productivity

Based on the aforementioned, the following model is hypothesised

FIGURE 3.4:THEORETICAL REPRESENTATION OF THE ELEMENTS THAT PREVENT DIRECT LABOUR PRODUCTIVITY



3.6.4 Ethical issues

The study has to be conducted in an ethical manner. In order to ensure this the Nelson Mandela Metropolitan University's ethical clearance process of the Faculty of Business and Economic Sciences as contained in the FORM E document was used to assess whether the:

i. Respondents' confidentiality and anonymity was guaranteed,
ii. It stipulated if the respondents were part of a vulnerable category in terms of either scholars, students in higher-education, medical or mentally challenged patients, and so forth, and
iii. If special permission was required from an institution for the protection of human rights of vulnerable groups, permission would be requested.

Additionally, a covering letter (Annexure 1) which required the respondent to sign consent for taking part in the study as well as an explanation of the aims of the study was attached

to the questionnaire that was handed out. The details in the covering letter included the following:

i. the respondent's participation in the study was completely voluntary,
ii. the respondent could withdraw from the study at any stage,
iii. completion of the questionnaire by the respondent was an indication of verbal consent; and
iv. a guarantee that the anonymity and confidentiality of the respondent would be respected.

3.7 SUMMARY

In this chapter, the research methodology applied in this study, various research paradigms, sampling design concepts and the measuring instruments to collect the data acquired was reviewed and discussed. An assessment with regard to the validity and reliability of the research and subsequent data collated was discussed.

Chapter undertakes the statistical examination of the independent variable as it discusses factors of direct labour productivty. It provides a detailed analysis of how respondents viewed theoretical factors of direct labour productivity.

CHAPTER 4

DISCUSSION OF FINDINGS

4.1 INTRODUCTION

In Chapter 3, the research methodology (research approach, sampling design, sampling and measuring instruments) used in the study and the first part of the empirical results were discussed. The study relates to the reliability and validity of the data and the applying regression analysis to understand the relationships between the variables.

In this chapter, Chapter 4, the results and descriptive statistics are reported. The results comment on the mean scores and the percentage of agreement or disagreement with the questionnaire statements. The results are critical as they provide a picture of what respondents feel about the variables investigated in the study. One example of this is, to what extent are they engaged and how does this impact direct labour productivity? Regression analysis was conducted to understand these relationships between the dependent variable (direct labour productivity) and the various independent variables identified.

Statistica, a computer based programme was used to analyse the data and to make inferences. The data analyses included the calculation of Cronbach's alphas, which reflect the validity and reliability of the data collected. A regession analysis was completed to test the correlation between the statistics achieved and the relationship between the variables. T-tests were also completed to determine whether there was a significant difference between the sample and population means, as well as between the sample groups. An indication of the average response to a question or statement on a scale was tested by the mean score and percentages were indicative of the sample portion associated with a specific response.

4.2 RELIABILITY AND VALIDITY OF DATA

Table 4.1 depicts the initial alpha values as above 0.6. This confirms that this data could be applied to any future analyses as reliable data.

The Cronbach's alpha coefficient, or the internal consistency reliability test as it is also widely known, has been calculated as below:

$$\frac{N.r}{1+(N-1).r}$$

Where = Cronbach's Alpha

N = the number of items;

r = the average of all (Pearson) correlation coefficients between the items.

TABLE 4.1 CRONBACH'S ALPHA RESULTS

Measuring Instrument	Final Cronbach's Alpha
Direct Labour Productivity	0.87
Organisational Culture	0.84
Leadership practices	0.90
Communication	0.85
Employees Engagement	0.82
Skills, Development and Training	0.84

4.3 ANALYSIS OF ALL THE RESPONSES

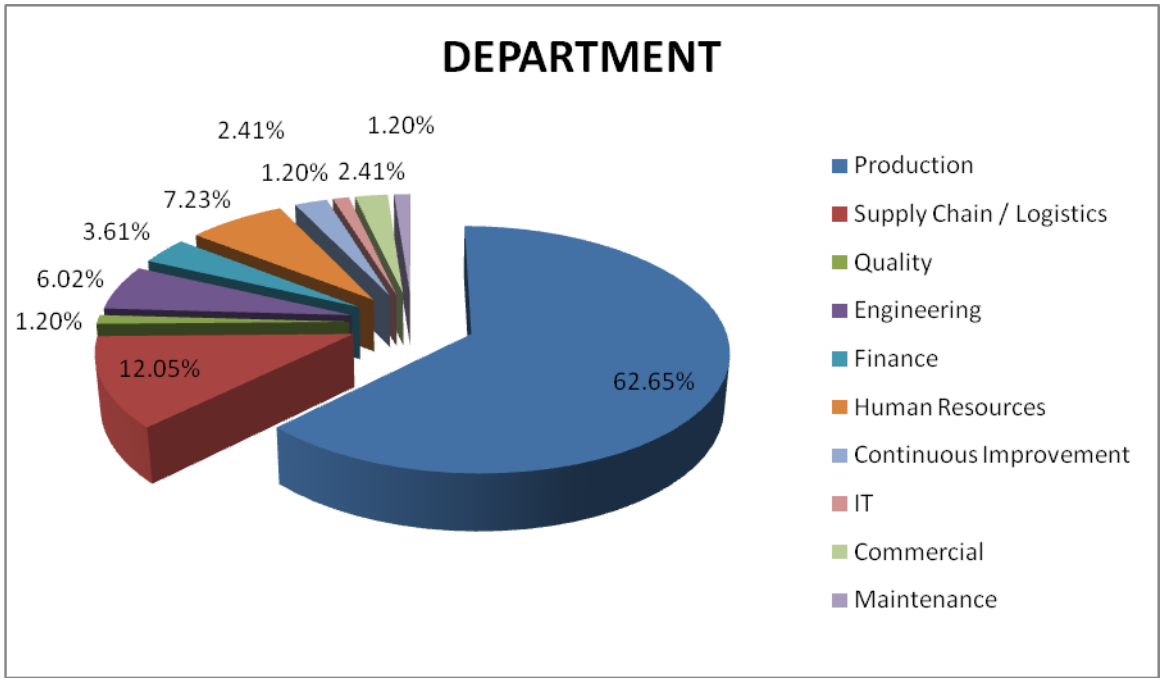
The response to the questionnaire on the basis of the time spent to complete was generally positive. Thel eighty three questionnaires were completed and collected within three working days. Respondents were willing to complete Section A of the questionnaire which required them to provide their biographical information. The results of the information acquired in Section A have been tabulated (SeeTable 4.2 and Figure 4.1).

Any additional information pertinent to the analyses is provided below the tables and figures.

TABLE 4.2: RESPONSES BY EMPLOYEES DEPARTMENT

Department	Frequency	Percent
Production	52	62.65%
Supply Chain / Logistics	10	12.05%
Quality	1	1.20%
Engineering	5	6.02%
Finance	3	3.61%
Human Resources	6	7.23%
Continuous Improvement	2	2.41%
IT	1	1.20%
Commercial	2	2.41%
Maintenance	1	1.20%
Total	83	100.00%

FIGURE 4.1: RESPONSES BY EMPLOYEE DEPARTMENT



The responses were received from a number of departments within Johnson Controls South Africa (PTY) Ltd as depicted in Table 4.2 and Chart 4.1. The department that contributed the most was Production (62.65%) followed by Supply Chain / Logistics (12.05%).

TABLE 4.3: RESPONSES DEFINED BY POSITION WITHIN THE ORGANISATION

Position held	Frequency	Percent
Hourly-paid	47	56.63%
Salaried	18	21.69%
Team Leader / Technician	2	2.41%
Manager	12	14.46%
Salaried Technical or Professional	4	4.82%
Total	83	100.00%

FIGURE 4.2: RESPONSES ACCORDING TO POSITION HELD

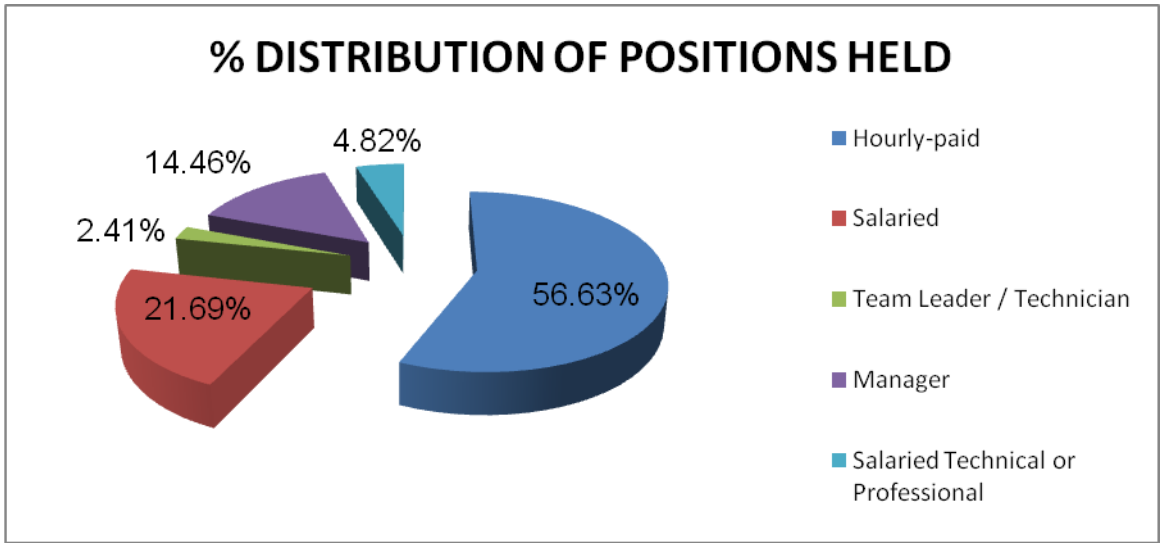


Table 4.3 and figure 4.2 indicate the percentage of respondents depending on the position on record at the company. Most of the respondents were from the hourly-paid section at 56.6 percent.

TABLE 4.4: RESPONSES ACCORDING TO GENDER

Gender	Frequency	Percent
Male	54	65.06%
Female	29	34.94%
Total	83	100.0%

FIGURE 4.3: RESPONSES ACCORDING TO GENDER

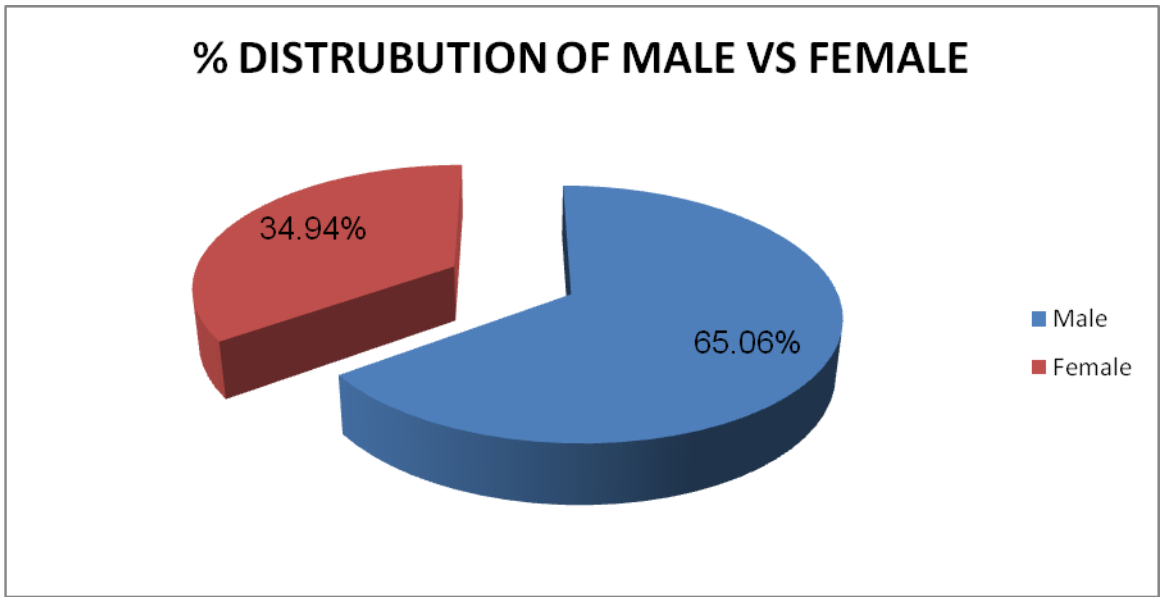


Table 4.4 and figure 4.3 indicate what gender the respondents are as a percentage. A 65.06 percent response was from male respondents and 34.94 percent were female.

TABLE 4.5: RESPONSES ACCORDING TO YEARS WORKED AT JOHNSON CONTROLS

Length of Employment	Frequency	Percent
Less than 1 year	6	7.2%
1-5 years	21	25.3%
6-10 years	20	24.1%
11-15 years	22	26.5%
16-21 years	13	15.7%
More than 21 years	1	1.2%
Total	83	100.0%

FIGURE 4.4: RESPONSES ACCORDING TO YEARS WORKED AT JCI

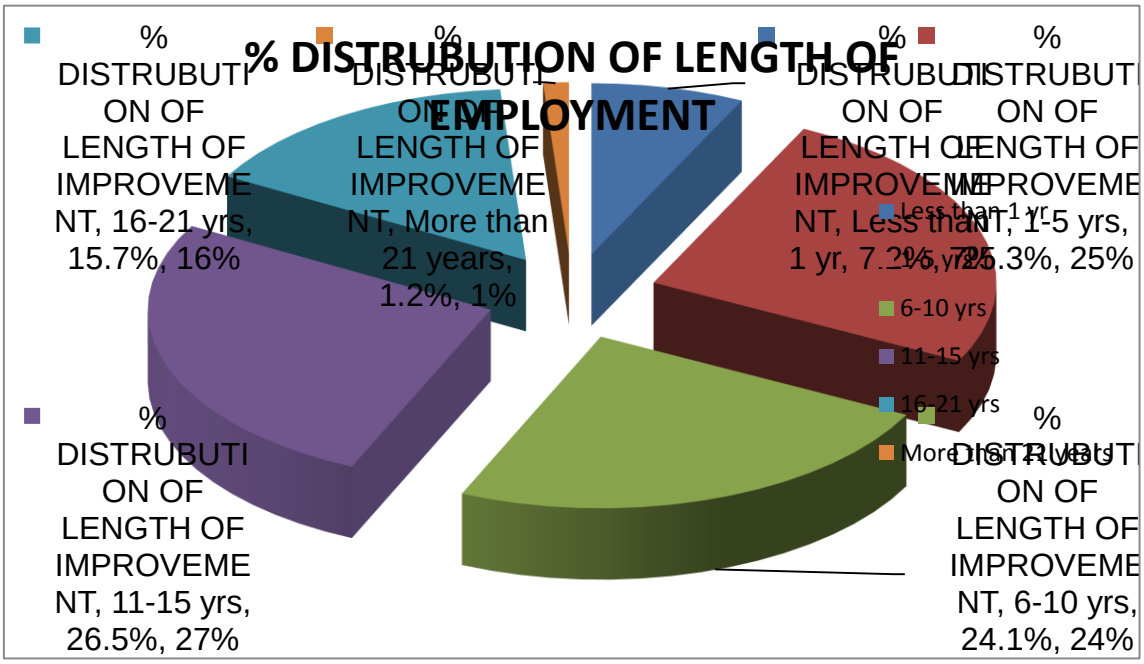


Table 4.5 and figure 4.4 indicate the percentage of respondents who took part in the survey based on the number of years employed by Johnson Controls. Most of the respondents, namely 26.5 percent, have been withJohnson Controls for between eleven and fifteen years. Another 67.5 percent of the respondents have been employed at Johnson Controls for more than 5 years.

TABLE 4.6: RESPONSES FOR AGE GROUP

Age Distribution	Frequency	Percent
Below 20 years	1	1.2%
21-30 years	16	19.3%
31-40 years	27	32.5%
41-50 years	34	41.0%
51-60 years	5	6.0%
Total	83	100.0%

FIGURE 4.5: RESPONSES FOR AGE GROUP

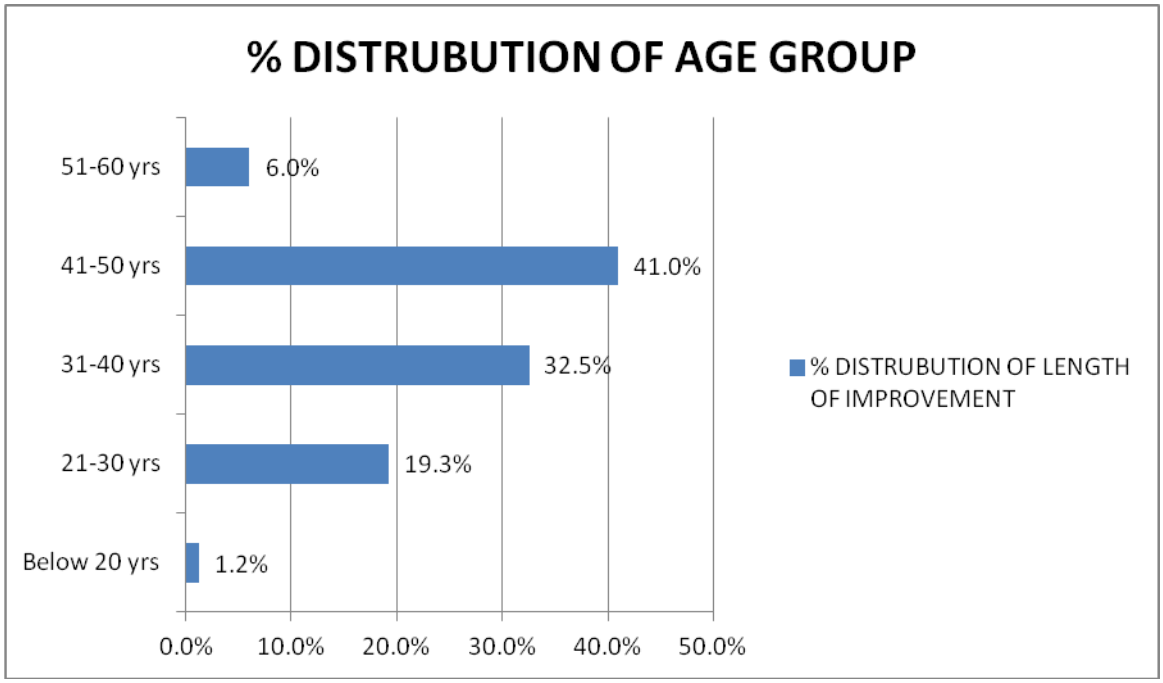


Table 4.6 and figure 4.5 indicate the number of respondents as a percentage according to age groups. Most of the respondents, namely 41 percent are between the age of 41-50 years, followed by age group 31-40 at 32.5 percent

TABLE 4.7: RESPONSES FOR HIGHEST QUALIFICATION

Highest Level of Qualification	Frequency	Percent
Grade 11	2	2.41%
Matric (Grade 12)	53	63.86%
National Diploma	12	14.46%
Degree	10	12.05%
Post Graduate Degree	3	3.61%
Other	2	2.41%
Not Available	1	1.20%
Total	83	100.00%

FIGURE 4.6: RESPONSES FOR HIGHEST QUALIFICATION

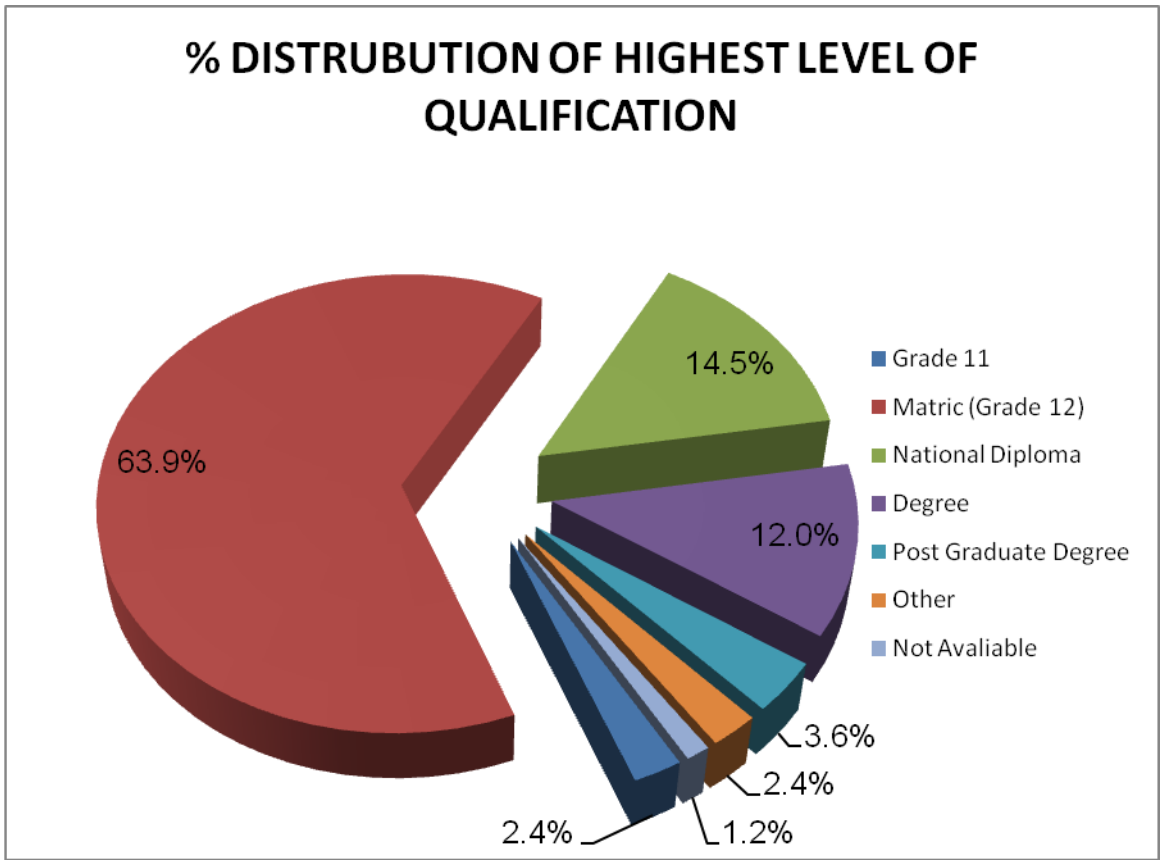


Table 4.7 and figure 4.6 indicate the percentage response based on the highest qualification attained. The majority of respondents, namely 63.9 percent, have matric (Grade 12), while 14.5 percent have a National Diploma.

4.3.1 Empirical results

The empirical results for direct labour productivity are reflected in Table 4.8 below, and explained afterwards.

Table 4.8 Direct Labour Productivity

Measuring Instrument Code	Statement	% Strongly Disagree and Disagree	% Uncertain	% Strongly Agree and Agree	Mean	Standard Deviation
PRO1	In the company productivity performance levels are viewed as one of the most important measurable	23%	11%	66%	3.687	1.189
PRO2	I perform duties to the best of my abilities	7%	8%	84%	4.217	1.037
PRO3	Johnson Controls is using the smartest ways to meet it's production targets.	25%	24%	51%	3.277	1.193
PRO4	I am succesful in my job.	12%	10%	78%	3.892	1.082
PRO5	Productivity losses are identified and root cause analysis conducted for corrective actions in all departments	29%	36%	35%	3.060	1.172
PRO6	I have all the tools required to meet my targets.	33%	16%	52%	3.229	1.193
PRO7	Standard methods of operation are in place	19%	18%	63%	3.518	1.052
PRO8	The team understand the functioning and importance of standard procedures.	20%	25%	54%	3.434	1.038
PRO9	Equipment that I use is regularly maintained and does not affect me achieving my targets.	39%	14%	47%	3.060	1.262

Table 4.8 has been analysed to reveal the following:

- 66% of the respondents agree that productivity performance can be viewed as one of the most important measurable variables in Johnson Controls.
- 84% of the respondents agree that they are performing their duties to the best of their ability.
- 51% indicated that Johnson Controls is using the smartest ways to meet its production targets. 24% of the respondents were uncertain on this issue.
- 78% of the respondents felt that they were successful in their job.
- 36% of the respondents were uncertain as to whether the root cause analyses conducted are conducted in all departments. 35% agree that this is done while 29% disagree.
- 52% of the respondents indicated that they have all the tools required in order to do their job, while 33 disagreed.
- 63% of the respondents felt that standard methods of operations were in place.

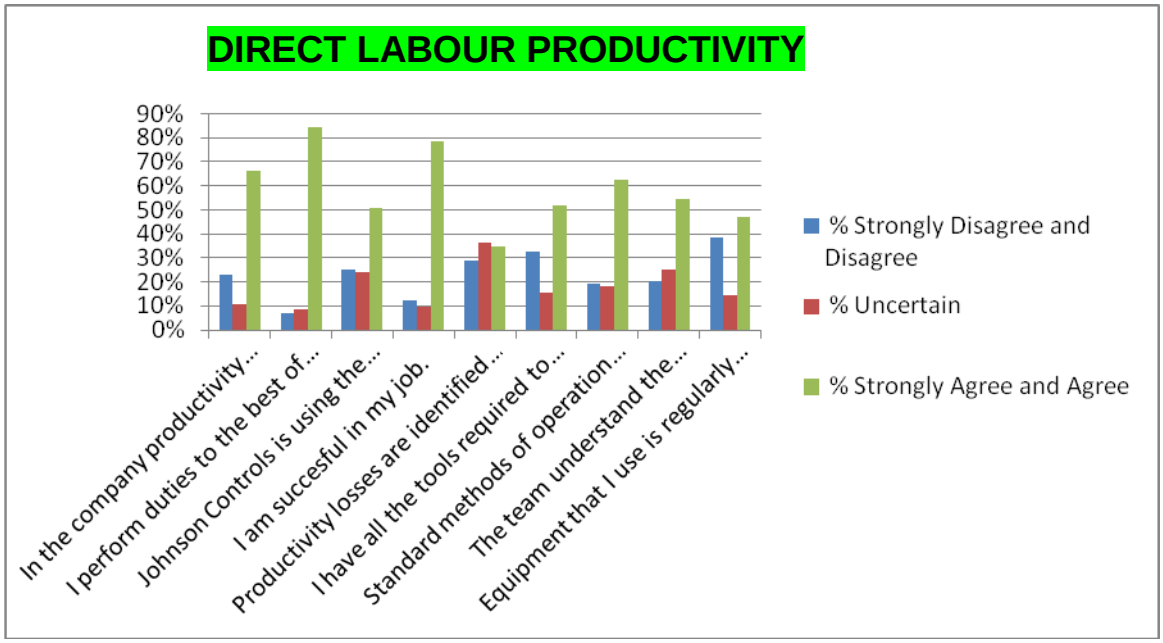
- 54% of the respondents felt that the team had an understanding of standard procedure and their importance. However, 20% did not agree with this statement.
- 47% of the respondents felt that the equipment that they are using was maintained regularly. However, 39% of the respondents felt that this was not the case. This is clearly an area that will have to be looked into.

FIGURE 4.7A: DIRECT LABOUR PRODUCTIVITY

A detailed analysis of the information in Figure 4.7a concedes the following:

Table 4.7a, as depicted above, concludes that direct labour productivity at Johnson Controls has received a fairly low score from respondents. An aggregate mean of 3.49 was achieved, which is below the acceptable standard indicated by a level of 4.0. This illustrates that the direct labour productivity factor has not been administered in a satisfactory way as a strategy towards being competitive in the market place.

FIGURE 4.7B: DIRECT LABOUR PRODUCTIVITY



From the above figure it is clear that there is huge room for improvement. The Highest statement of disagreement is coming from a statement such as "*Equipment that I use is regularly maintained and does not affect me achieving my targets*" (39%) with a standard deviation of 1.262. This hints to the fact that there is a supervisory or leadership issue on the line.

The empirical results for employee engagement are depicted in Table 4.9 below, and discussed thereafter.

TABLE 4.9: MEASURING INSTRUMENT EMPLOYEE ENGAGEMENT

Measuring Instrument Code	Statement	% Strongly Disagree and Disagree	% Uncertain	% Strongly Agree and Agree	Mean	Standard Deviation
EET1	I am paid fairly for the work I do.	33%	16%	52%	3.193	1.244
EET2	I would gladly refer a good friend or family member to Johnson Controls for employment	35%	14%	51%	3.048	1.361
EET3	My supervisor provides me with recognition for doing good work	45%	20%	35%	2.783	1.307
EET4	In the last six months I had an opportunity to learn and develop.	33%	19%	48%	3.241	1.349
EET5	Johnson Controls values my contribution	28%	29%	43%	3.169	1.146
EET6	I am more productive as a result of engagement activities at Johnson Controls	16%	33%	52%	3.422	0.912

Table 4.9 contains the the following analytical information:

- 52% of the respondents agree that they are being paid adequately for the work they do.
- 51% of the respondents indicated that they would gladly refer a good friend or family member to Johnson Controls for employment.
- 35% of the respondents indicated that their supervisor provides them with recognition for good work done.
- 48% of the respondents indicated that they had an opportunity to learn and develop within the last six months.
- 43% of the respondents indicated that Johnson Controls valued their contribution.
- 52% of the respondents indicated that they are more productive as a result of engagement activities at Johnson Controls.

FIGURE 4.8 EMPLOYEE ENGAGEMENT

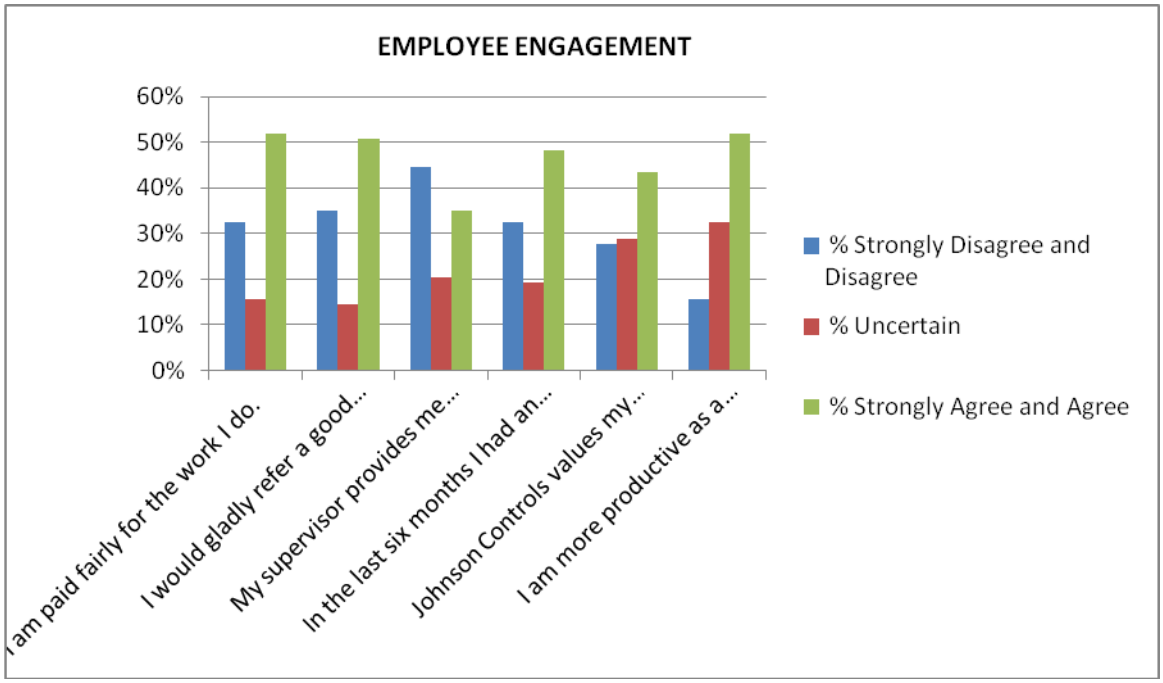


Table 4.9 above, based on the employee engagement instrument, indicate the responses with the highest level of agreement up to 52 percent was for statements number one and six which stated that "*I am paid fairly for the work I do"* and "*I am more productive as a result of engagement activities at Johnson Controls."* There is a marked response of a high level of disagreement of up to 45 percent where the respondents answered statement EET3 (Refer to Figure 4.8 above), which claimed "*my supervisor provides me with recognition for doing good work."*

Another illustration reflected in Table 4.9 is that the mean loaded in the employee engagement construct ranges from 2.783 to 3.422. This means that Johnson Controls has been fairly successful in offering staff engagement activities. Looking at the internal targets that Johnson Controls had set for itself, which can be equated to a minimum level of four, this level is not at an acceptable level. The average mean loaded at a level of 3.14, (standard deviation - 0.90), revealing employee satisfaction with the offering and implementation of employee engagement at Johnson Controls.

TABLE 4.10: MEASURING INSTRUMENT ORGANISATIONAL CULTURE

Measuring Instrument Code	Statement	% Strongly Disagree and Disagree	% Uncertain	% Strongly Agree and Agree	Mean	Standard Deviation
CUL1	I fully understand how things are done at Johnson Controls and apply that as a guide in my job	19.3%	13.3%	67.5%	3.651	1.152
CUL2	My supervisor considers the effect on me and my collegues when making decisions	34.9%	25.3%	39.8%	2.964	1.204
CUL3	Johnson Controls encourages innovation which helps me to be creative in my job.	19.3%	13.3%	67.5%	3.482	1.243
CUL4	I am clear on what my duties and responsibilities are.	15.7%	12.0%	72.3%	3.735	1.105
CUL5	Johnson controls has an effective communication system which assist me in doing my job better.	28.9%	21.7%	49.4%	3.217	1.169
CUL6	Johnson Controls provides for constant interaction with our customers to understand their needs and tailor our services to their expectation.	10.8%	31.3%	57.8%	3.614	0.948

Table 4.10 is indicative of the following:

- 67.5% of the respondents agree that they fully understand how things are done at Johnson Controls and that this is used asa guide to do their job.
- 39.8% of the respondents agree that their supervisor considers the effect on them and their colleagues before making a decision.
- 67.5% of the respondents agree that Johnson Controls encourages some form of innovation which assists them in being more creative in their work function.
- 72.3% of the respondents agree that they know what their duties and responsibilities are.
- 49.4% of the respondents indicated that they agree with the statement that Johnson Controls has an effective communication system and it assist them in doing their jobs better.
- 57.8% of the respondents agree that constants interaction is done with the customers to understand needs and to adjust services in line with the expectation.

FIGURE 4.9: ORGANISATIONAL CULTURE

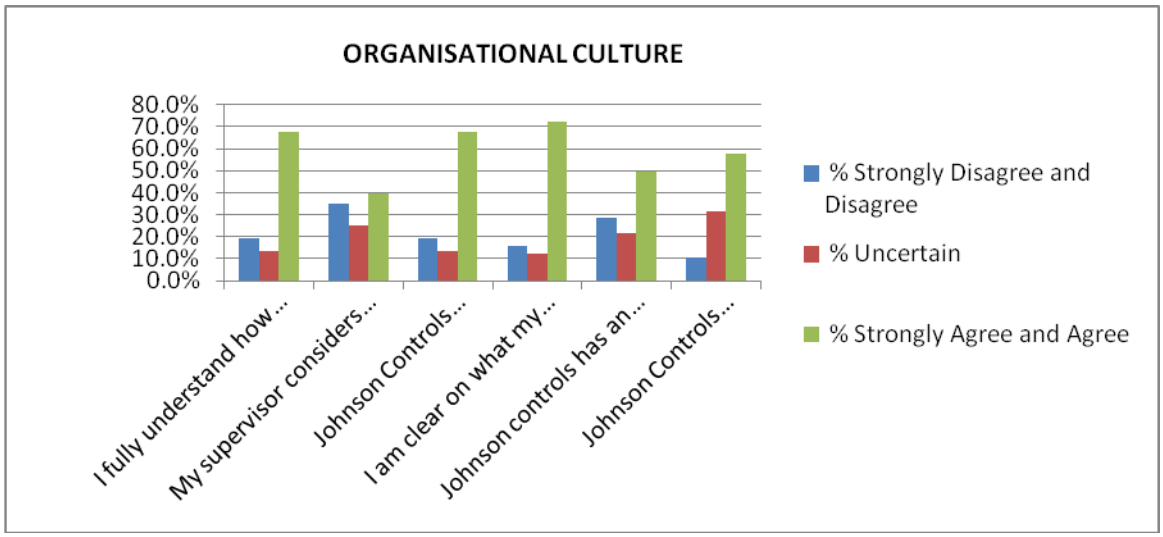


Table 4.10 and Figure 4.9 depict the views of Johnson Controls staff in relation to organisational culture within Johnson Controls. The mean score ranged from 2.96 to 3.735 and the standard deviation scores ranged from 1.204 and 1.105. Table 4.10 reflects the construct with the highest percentage of agreement (72.3%) indicating that employees at Johnson Controls have a clear understanding as to what their duties and responsibilities are. The construct with the highest disagreement (34.9%) is the second statement, which stated "*My supervisor considers the effect on me and my colleagues when making decisions."* This same construct also recorded a high level of uncertainty (25.3%).

The average mean for the construct organisational culture was 3.44 with an average standard deviation of 0.85. The average mean is above the acceptable level of 3.00 which could indicate that employees at Johnson Controls are satisfied with the organisational culture within the organisation.

TABLE 4.11: MEASURING INSTRUMENT SKILLS DEVELOPMENT AND TRAINING

Measuring Instrument Code	Statement	% Strongly Disagree and Disagree	% Uncertain	% Strongly Agree and Agree	Mean	Standard Deviation
SDT1	Employees get regular feedback of their perfomance	36.1%	10.8%	53.0%	3.241	1.255
SDT2	Employees agree that they have adequate skills to perform their job.	14.5%	20.5%	65.1%	3.602	1.047
SDT3	I take pride and ownership for my work.	10.8%	8.4%	80.7%	4.024	1.137
SDT4	Through improved training I can do my function more efficiently.	14.5%	13.3%	72.3%	3.783	1.148
SDT5	I am regularly updated with aspects critical to my function.	32.5%	12.0%	55.4%	3.265	1.231
SDT6	Due to my skill set I perform better that what is required in my performance indicators.	14.5%	20.5%	65.1%	3.554	1.003

An analysis of Table 4.11 illustrates the following:

The results indicate that responses with a high level of agreement adding up to 80.7% were made to statement number 3, which stated that '*I take pride and ownership in my work."* The responses with the highest level of disagreement, 36.1 percent, were when the respondents answered statement 1 (Refer to Appendix 3), which claimed *"Employees get regular feedback on their performance."* It also illustrates that the skills development and training constructs mean that loaded ranges were from 3.241 to 4.024. This is indicative of Johnson Controls having succeeded in offering skills development and training to its employees. Statement SDT3 loaded the highest mean score, 4.024 with a standard deviation of 1.137 from the participants' viewpoint. This indicates that Johnson Controls employees are in agreement that the administration of the Skills Development and training construct is well administered within the organisation.

FIGURE 4.10 SKILLS DEVELOPMENT AND TRAINING

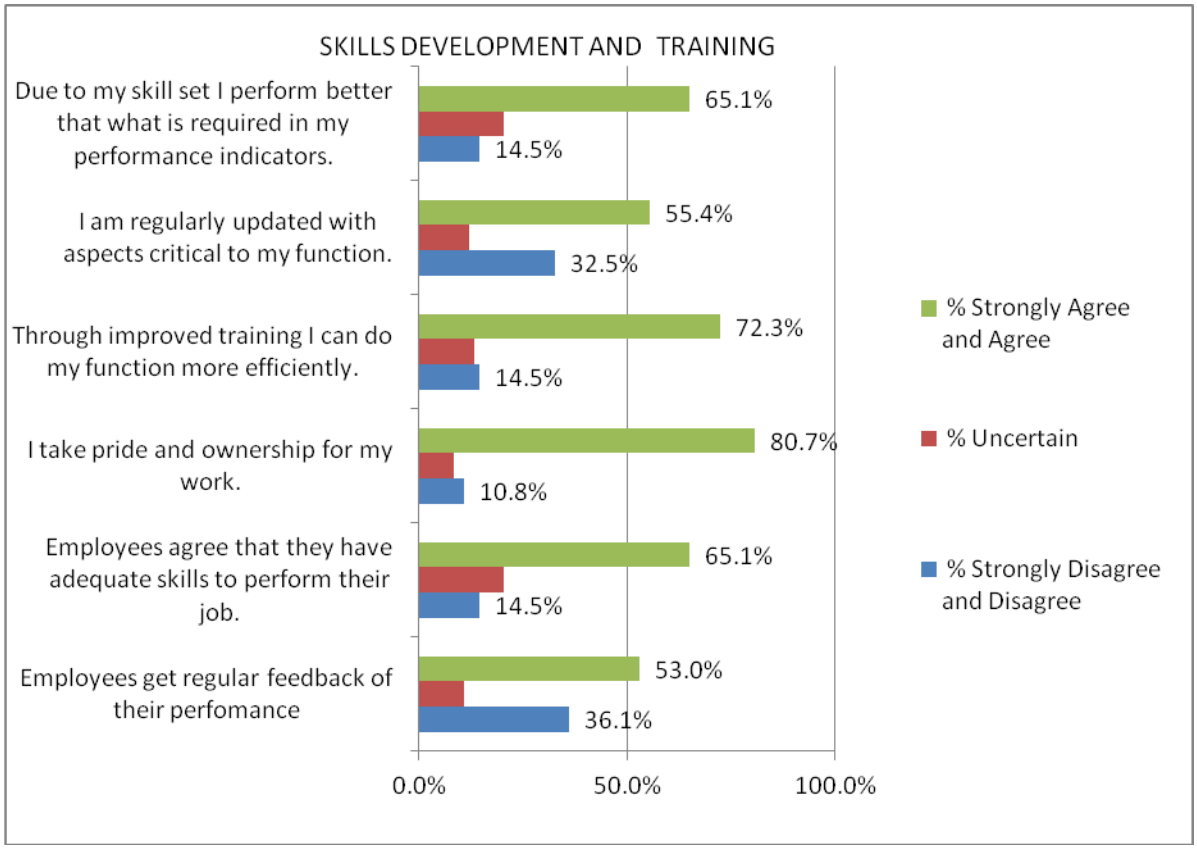


Figure 4.10 illustrates that there is a high percentage agreement rate, ranging from 53 percent to 80.7 percent with regard to the statements pertaining to skills development and training. According to Coetsee (2011), it is important to offer skills development and training to the employees of an organisation as well as to encourage these employees to make use of the opportunity to develop. The employees within an organisation play an important role in the enhancement and attainment of the expected performance level.

The empirical results for the construct communication are reflected in Table 4.12, and discussed thereafter.

TABLE 4.12: MEASURING INSTRUMENT COMMUNICATION

Measuring Instrument Code	Statement	% Strongly Disagree and Disagree	% Uncertain	% Strongly Agree and Agree	Mean	Standard Deviation
COM1	At Johnson Controls there is open and honest two way communication	43%	30%	27%	2.675	1.260
COM2	My supervisor is an effective listener	41%	13%	46%	2.916	1.390
COM3	Information affecting all Johnson Control employees are comunicated transparently to emplyees at all levels	33%	40%	28%	2.843	1.099
COM4	Johnson Controls has an open door policy to encourage communication between itself and its employees	28%	22%	51%	3.229	1.182
COM5	My supervisor clearly communicates what is expected of me.	23%	12%	65%	3.470	1.213
COM6	I receive all the comunication and information I need in order to do my job.	28%	25%	47%	3.241	1.164

FIGURE 4.11: COMMUNICATION

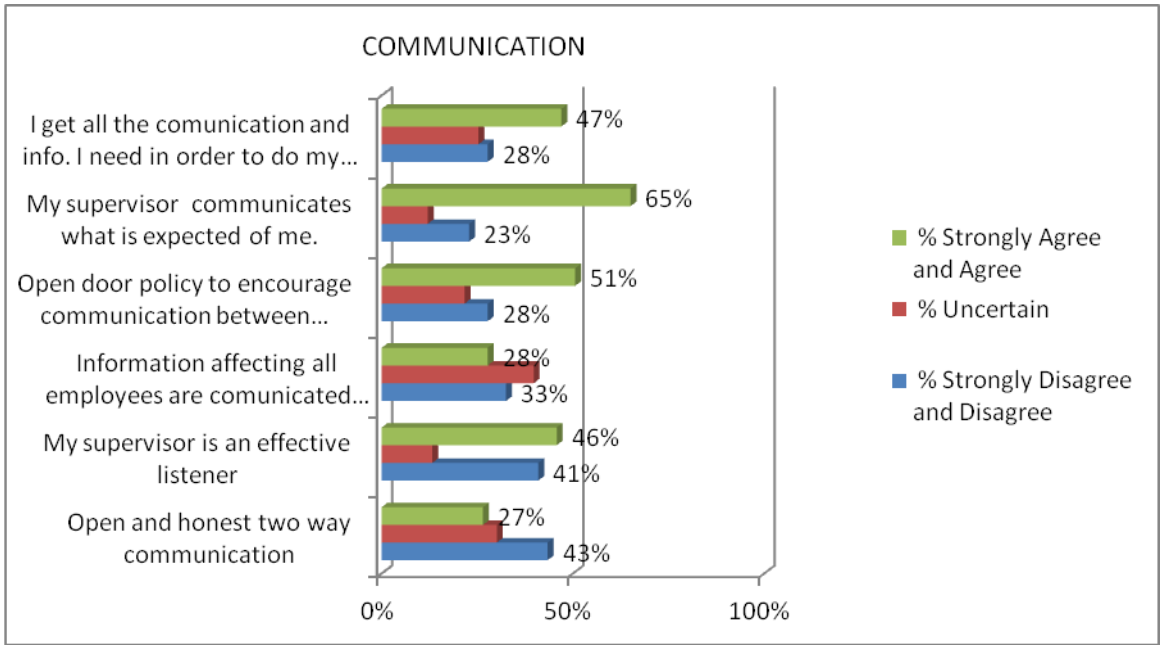


Figure 4.11 is an illustration of the percentages obtained when the importance of communication was measured and tested.

The viewpoint of employees in relation to organisational communication within Johnson Controls is depicted in Table 4.12 and Figure 4.11. The mean range was from 2.675 to 3.470 and the standard deviation range was between 1.260 to 1.213. The item that scored the highest mean indicates that Johnson Controls employees agree that the supervisor clearly communicates what is needed. The average mean score is 3.06 which

is just above the satisfactory level. This is however still below the standard that Johnson Controls sets for itself. The highest disagreement level from obtained from the statement COM1 which states that, "*At Johnson Controls there is open and honest two way communication.'*

Coetzee (2011) states that it is important for an organisation to use good communication to detect any factors that are indicative of a less than average performance image.

TABLE 4.13: LEADERSHIP PRACTICES

Measuring Instrument Code	Statement	% Strongly Disagree and Disagree	% Uncertain	% Strongly Agree and Agree	Mean	Standard Deviation
LPT1	My supervisor has my best interests at heart	34%	25%	41%	2.976	1.249
LPT2	My Supervisor implement strategies after involving the team	43%	23%	34%	2.783	1.269
LPT3	My supervisor is an outstanding leader	39%	18%	43%	3.012	1.264
LPT4	Team members' ideas and views are welcomed by leadership	35%	16%	49%	3.036	1.244
LPT5	My supervisor regularly reviews the team's targets to ensure performance targets and standards are achieved	30%	16%	54%	3.205	1.257
LPT6	My supervisor helps to remove obstacles preventing me from doing my job effectively	33%	16%	52%	3.205	1.227

Table 4.13 indicates the responses as scored by employees of Johnson Controls regarding the leadership practices construct. The highest agreement relates to the question LPT5 which is the response to the statement "*my supervisor regularly reviews the team targets to ensure performance targets and standards are achieved."* Conversely the statement that recorded the highest disagreement was statement LPT2 which states that "*My supervisor implement strategies after involving the team."*

The average mean of 3.04 and aggregate standard deviation of 1.02 indicates that the respondents are satisfied with the leadership practices being applied within Johnson Controls.

FIGURE 4.12: LEADERSHIP PRACTICES

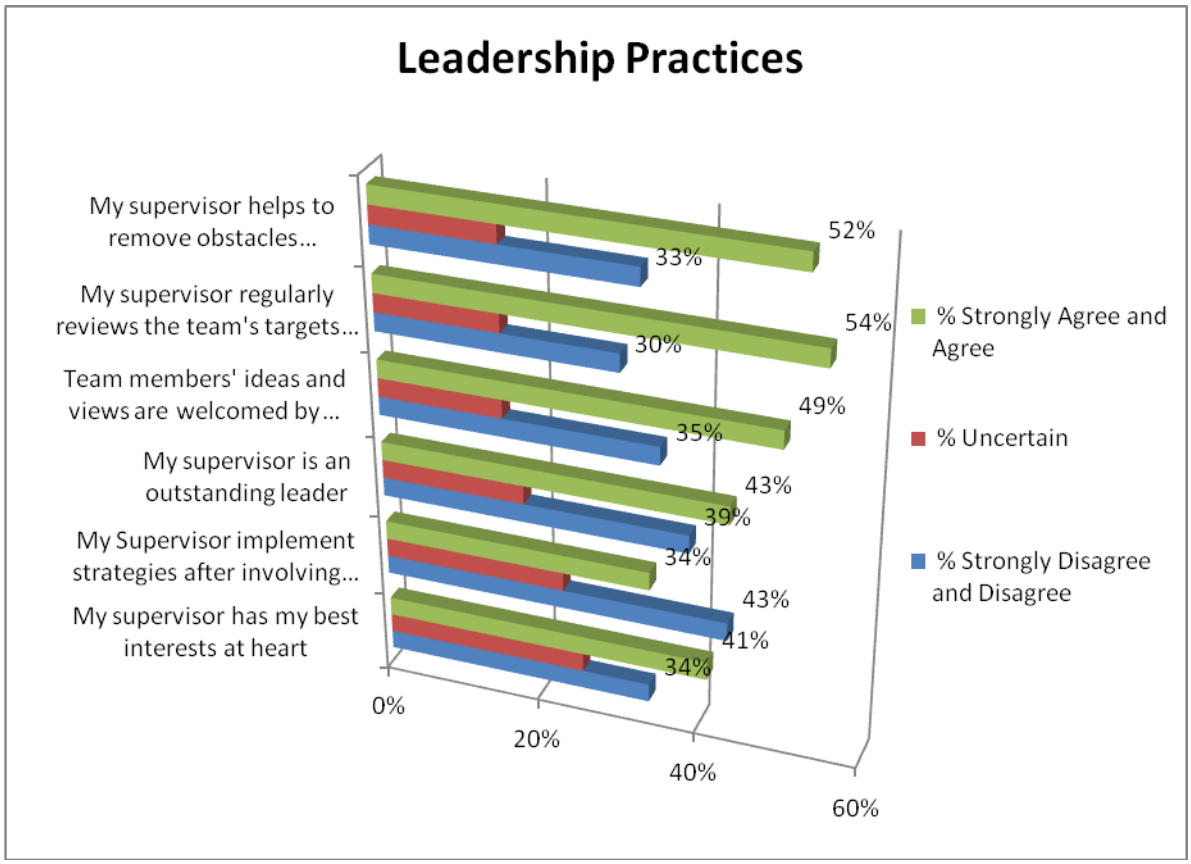


Figure 4.12 above reflects a defininte inclination towards agreement, which does not however, overshadow the disagreements. Although the average median is acceptable it is clear that Johnson Controls wants to be much stronger in this area. Leadership is considered the driver of the motivational climate and being strong in this area could be the starting point to many actions that are initiated within the organisation.

4.4 THE HYPOTHESISED RELATIONSHIPS

A hypothesis has been formulated on the relationship between direct labour productivity and any variables that may have an influence on the result. The independent variables have been denoted as leadership practices, employee engagement, skills development and training, communication and organisational culture.

The dependent variable was direct labour productivity. The analysis answers the secondary research questions as to how these variables impact on direct labour productivity.

The following null and alternative hypotheses were formulated:

H_{01} Organisational culture is not related to direct labour productivity at Johnson Controls

H_{A1}: Organisational culture is positively related to direct labour productivity at Johnson Controls

H_{02} Leadership practices are not related to direct labour productivity at Johnson Controls

H_{A2}: Leadership practices are positively related to direct labour productivity at Johnson Controls

H_{03} Communication is not related to direct labour productivity at Johnson Controls

H_{A3}: Communication is positively related to direct labour productivity at Johnson Controls

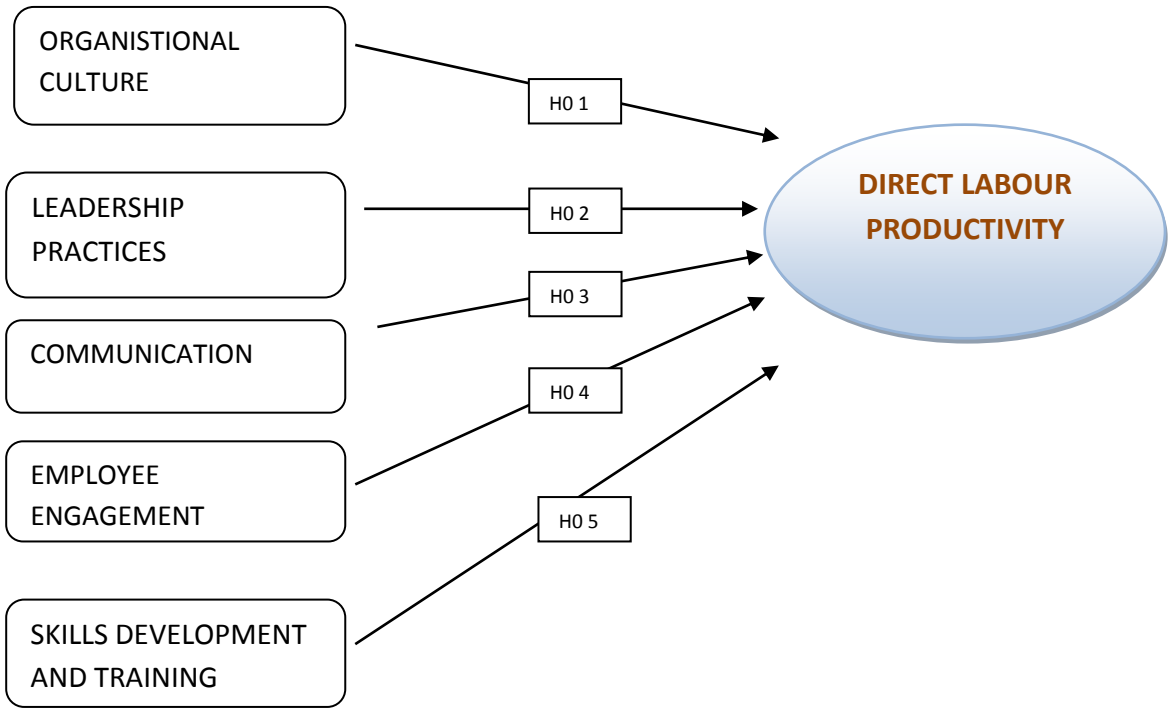
H_{04} Employee engagement is not related to direct labour productivity at Johnson Controls

H_{A4}: Employee engagement is positively related to direct labour productivity at Johnson Controls

H_{05} Skills development and training are not related to direct labour productivity at Johnson Controls

H_{A5}: Skills development and training are positively related to direct labour productivity at Johnson Controls

FIGURE 4.13: HYPOTHESISED MODEL TO IMPROVE DIRECT LABOUR PRODUCTIVITY



4.5 SUMMARY OF THE EMPIRICAL RESULTS

A number of analyses of a statistical nature were used in in this research. The descriptive statistics of mean and percentage were used to investigate any given trends and relationships highlighted by participant responses. Then, the multiple regression analysis was completed as a means to investigate the relationships in the hypothesised model above. Lastly, t-tests and ANOVAs helped gain information on any differences within the demographic groups in respect of gender and education based on their mean scores as applied to dependent and independent variables.

4.5.1 Multiple regression analysis: total sample

The researcher was investigating the impact of the independent variable on the dependent variable in a metric format, hence the selection of multiple regression analysis. The results of the regression analysis results gave evidence of the statistical relevance of the variables defined as independent This process measures the strengths of the interrelationships between one or more of the independent variables and the dependent variable

This analysis was done on the hypothesised model for the complete sample.

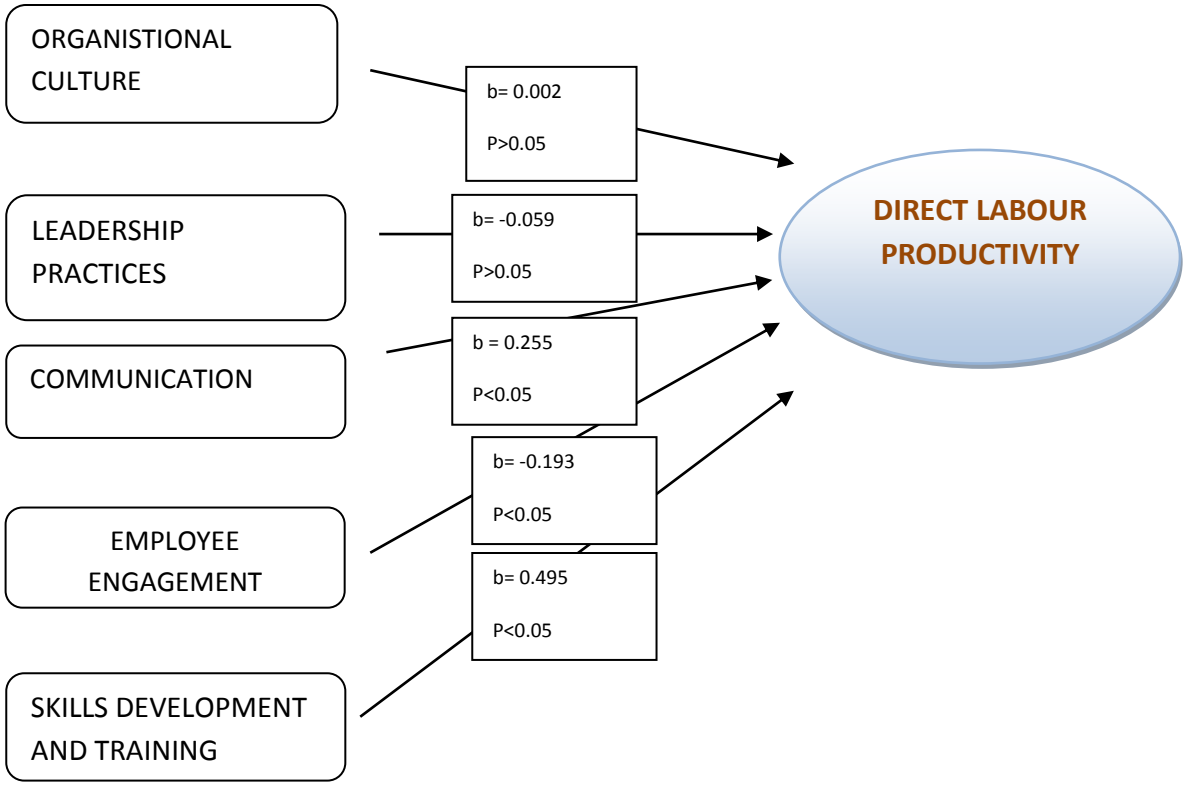
TABLE 4.14 : MULTIPLE REGRESSION: DEPENDANT VARIABLE: DIRECT LABOUR PRODUCTIVITY

	b*	Std.Err. of b*	t(77)	p-value
Intercept	0.500	0.172	2.912	0.0047
SDT_factor	0.495	0.096	5.176	0.0000
CUL_factor	0.002	0.102	0.023	0.9819
LPT_factor	-0.059	0.077	-0.773	0.4416
COM_factor	0.255	0.114	2.231	0.0286
EET_factor	0.193	0.096	2.021	0.0467

Red indicates statistically significant coefficient ($p < 0.05$)

$R = 0.91$; $R^2 = 0.83$; Adjusted $R^2 = 0.82$

FIGURE 4.14: THEORETICAL MODEL TO INCREASE DIRECT LABOUR PRODUCTIVITY – EMPIRICAL RESULTS



4.5.2 The relationship between organisional culture and direct labour productivity

Hypothesis H_{A1} states that there is a well-defined relationship between the organisational culture and direct labour productivity at Johnson Controls. The null hypothesis would constitute no relationship between these two elements.

The empirical evidence presented in Table 4.14 shows an insignificant relationship between organisational culture (b = 0.002, p=0.9819) and direct labour productivity. The hypothesis H_{01} is therefore supported, while the alternative H_{A1} is rejected.

4.5.3 The relationships between leadership practices and direct labour productivity

Hypothesis H_{A2} states that there is a positive relationship between leadership practices and direct labour productivity. The null hypothesis formulated in this regard was that there was no relationship between leadership practices and direct labour productivity.

The empirical results presented in Table 4.14 show an insignificant relationship between leadership practices (b=-0.059, p=0.4416) and direct labour productivity. The null hypothesis can therefore not be rejected in this case.

4.5.4 The relationship between communication and direct labour productivity

The hypothesis H_{A3} states that there is a positive relationship between communication and direct labour productivity. The null hypothesis stated that there is no relationship between these concepts (i.e. communication and direct labour productivity). As per Table 4.14 the empirical results show a significant relationship between communication (b=0.255, p=0.0286) and direct labour productivity. The hypothesis H_{A3} is therefore supported while the null hypotheses, H_{03} is rejected.

4.5.5 The relationship between employee engagement and direct labour productivity

The hypothesis H_{A4} states that there is a positive relationship between employee engagement and direct labour productivity, while the null hypotheses claims that there is no relation between these two concepts. The empirical results reflected in Table 4.14 reflect a significant relationship between employee engagement (b=0.193, p=0.0467) and direct labour productivity. Based on the results, hypothesis H_{A4} is supported and the null hypothesis, H_{04} is rejected.

4.5.6 The relationship between skills development and training and direct labour productivity

The empirical results (Table 4.14) show a significantly positive relationship between skills development and training (b=0.495, p=0.0047) and direct labour productivity. Hypothesis H_{A5} is therefore supported, while the null hypothesis is rejected. This result means that for every one unit change in skills development and training there is a 0.495 change in direct labour productivity. This is the most influential of the five independent variables.

In analysing the relationships among the independent variables and the dependent variable in the model above, multiple regression analysis was used. This means that the regression coefficient (b*) of each independent variable represents the partial effect of that variable on the dependent variable, i.e. the effect of that independent variable while “controlling for” all

other independent variables in the model. As such, independent variables with strong bi-variate correlations with the dependent variable (see next section), may show insignificant regression effects due to their strong relationships with the other independent variables.

4.5.7 Correlations among the dependent and independen variables

Below is a table presenting the correlations among the factors studied:

TABLE 4.15: CORRELATIONS AMONG FACTORS

	PRO_factor	SDT_factor	CUL_factor	LPT_factor	COM_factor	EET_factor
PRO_factor	1.00					
SDT_factor	0.88	1.00				
CUL_factor	0.81	0.86	1.00			
LPT_factor	0.71	0.68	0.75	1.00		
COM_factor	0.84	0.82	0.84	0.86	1.00	
EET_factor	0.81	0.77	0.81	0.82	0.88	1.00

Red indicates statistically significant correlations

Following the Pearson's correlation coefficient theory ***r*** is the most commonly used measure of association in the social sciences. The ***r*** summarises the linear relationship between two numerical variables. Its formula is as follows:

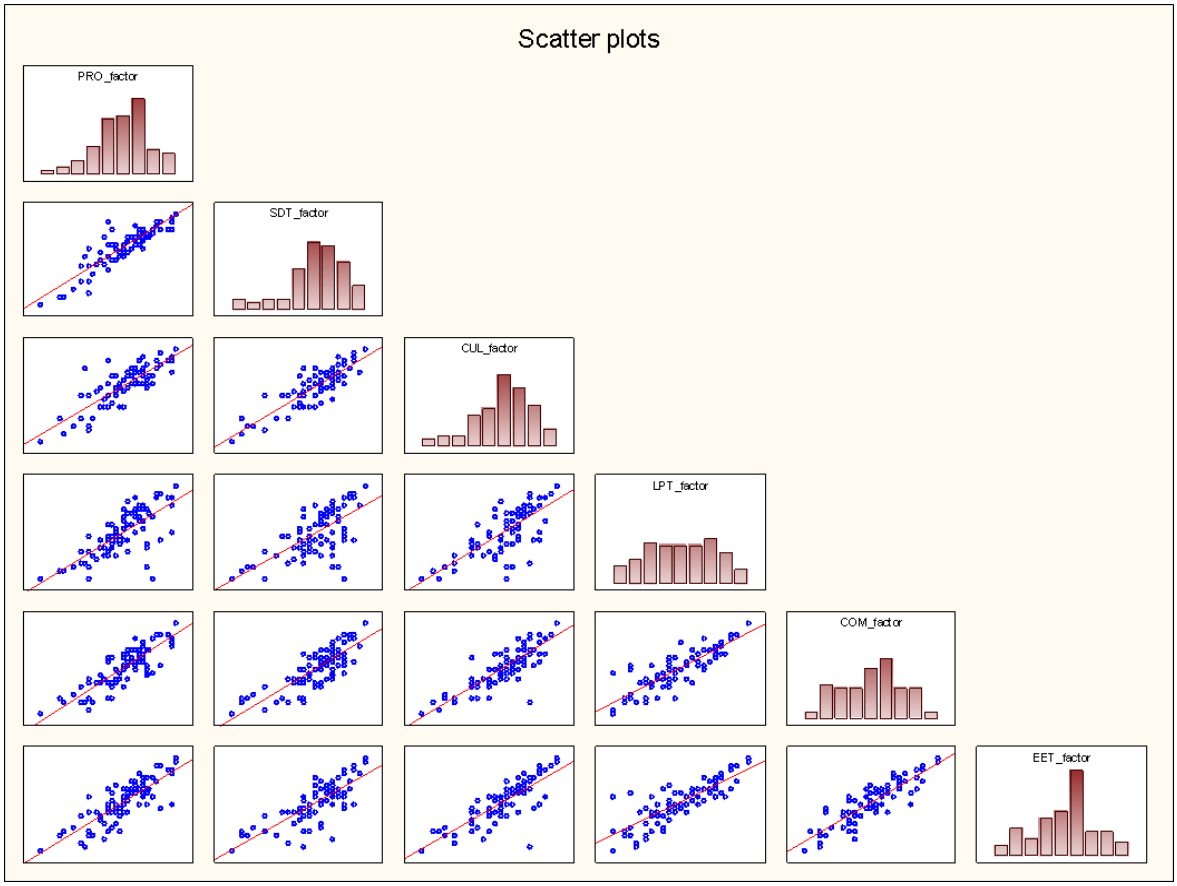
$$r = \frac{1}{n-1}\sum_{i=1}^{n}\left(\frac{X_i - \overline{X}}{s_X}\right)\left(\frac{Y_i - \overline{Y}}{s_Y}\right)$$

In this equation, ***n*** is the sample size, $\bar{X}$is the observed sample mean for variable ***x***, $\overline{Y}$is the observed sample mean for variable ***y***, S_x is the standard deviation for variable ***x*** and S_y is the standard deviation for variable ***y***. X_i and Y_i represent the values of variables ***x*** and ***y*** for the i_{th} individual in the sample. The values for ***r*** generated by this equation will range from -1 to 1. A value of -1 indicates a perfect negative correlation between the variables (that is, when the value for one variable is high, the value for the other variable is low). A value of 0 indicates no relationship between the variables. A value of 1 indicates a perfect positive correlation between the variables.

From Table 4.15 it is clear that there are strong correlations among all the factors. The overall average value of ***r*** for this data set is 0.81. This is much higher than a value of zero, thus indicating strong correlations among the variables.

Figure 4.15 below give a graphic representation of how close these data is distributed.

FIGURE 4.15: DATA DISTRIBUTION



This affirms the thinking that all of these elements or factors are critical for the improvement of direct labour productivity.

It should be noted that variable association does not always equate with the cause of these variables. By using Pearson's correlation analysis we can gain a better understanding of the strength of association and the direction of movment of this association.

4.5.8 Inferential tests on demographic variables

The independent samples t-test and Anova were conducted to obtain a clearer understanding of how the variables were viewed (in terms of mean scores), firstly by males vs females, secondly by the various age groups, and thirdly, by the qualification level of the respondents.

TABLE 4.16: T-TEST FOR GENDER DIFFERENCES:

T-tests; Grouping: Gender

	Mean Male	Mean Female	t-value	df	p	Valid N Male	Valid N Female	Std.Dev. Male	Std.Dev. Female
PRO_factor	3.42	3.61	-1.02	81	0.3088	54	29	0.87	0.65
SDT_factor	3.51	3.71	-1.06	81	0.2914	54	29	0.93	0.66
CUL_factor	3.43	3.48	-0.26	81	0.7967	54	29	0.89	0.80
LPT_factor	2.92	3.25	-1.42	81	0.1586	54	29	1.11	0.80
COM_factor	2.98	3.21	-1.09	81	0.2792	54	29	0.99	0.77
EET_factor	3.09	3.24	-0.73	81	0.4650	54	29	0.98	0.72

(No statistically significant differences (all p-values > 0.05))

From the data presented the means for the two groups were not significantly different which proves that gender did not view these constructs differently.

Table 4.17 below reflects the T-Test for Age Differences

Breakdown Table of Descriptive Statistics

Age_new	PRO_fact Means	PRO_fact N	PRO_fact Std.Dev.	SDT_fact Means	SDT_fact N	SDT_fact Std.Dev.	CUL_fact Means	CUL_fact N	CUL_fact Std.Dev.	LPT_fact Means	LPT_fact N	LPT_fact Std.Dev.	COM_fac Means	COM_fac N	COM_fac Std.Dev.	EET_fact Means	EET_fact N	EET_factor Std.Dev.
30 or younger	3.52	17	0.60	3.64	17	0.61	3.42	17	0.71	2.96	17	1.01	2.92	17	0.74	3.06	17	0.88
31 - 40 years	3.43	27	0.92	3.54	27	0.92	3.35	27	0.87	2.90	27	1.10	3.03	27	0.98	3.10	27	0.95
41 or older	3.51	39	0.81	3.58	39	0.89	3.52	39	0.91	3.17	39	0.98	3.15	39	0.97	3.21	39	0.89
All Grps	**3.49**	**83**	**0.80**	**3.58**	**83**	**0.85**	**3.44**	**83**	**0.85**	**3.04**	**83**	**1.02**	**3.06**	**83**	**0.92**	**3.14**	**83**	**0.90**

Analysis of Variance

	F	p
PRO_factor	0.10	0.9020
SDT_factor	0.07	0.9305
CUL_factor	0.34	0.7130
LPT_factor	0.61	0.5435
COM_factor	0.37	0.6951
EET_factor	0.21	0.8104

(No statistically significant differences (all p-values > 0.05))

It should be noted that in the Anova's test for differences among age groups, the first two and last two age categories were combined due to the small n's. From the data presented in Table 4.17 it is clear there have been no significant differences in the manner in which the

respondents answered by age. All age group answered and viewed the constructs in the same manner.

TABLE 4.17:T-TEST BY LEVEL OF QUALIFICATION

T-tests; Grouping: Qual_new

	Mean Gr12 or less	Mean Higher than Gr12	t-value	df	p	Valid N Gr12 or le	Valid N Higher th	Std.Dev. Gr12 or le	Std.Dev. Higher th	Cohen's d	Practical signif.
PRO_factor	3.35	3.81	-2.42	78	0.0180	55	25	0.84	0.65	0.58	Medium
SDT_factor	3.45	3.87	-2.05	78	0.0435	55	25	0.90	0.68	0.49	Small
CUL_factor	3.31	3.74	-2.09	78	0.0400	55	25	0.90	0.73	0.50	Medium
LPT_factor	2.80	3.62	-3.58	78	0.0006	55	25	1.00	0.83	0.86	Large
COM_factor	2.87	3.54	-3.16	78	0.0022	55	25	0.92	0.79	0.76	Medium
EET_factor	2.96	3.58	-2.98	78	0.0038	55	25	0.93	0.68	0.72	Medium

Red indicates statistically significant differences ($p < 0.05$)

It should be noted that two categories were created; namely, Grade12 or less and higher than Grade 12. Significant differences were found between these two groups in terms of all the variables. In all cases the “Higher than Gr12” group had a higher mean score than the “Gr12 or less” group. Cohen’s d was used as an effective size measure that indicates the practical significance of a (statistically significant) finding. It is interpreted as follows:

(1) <0.50: Small

(2) 0.50 – 0.79: Medium

(3) 0.80+: large

In terms of Skills Development and Training the difference was only of small practical significance, while it was of large practrical significance in terms of Leadership practices. For the other four variables, Cohen’s d indicated medium practical significance.

4.6 SUMMARY

In this chapter the reliability and validity of the results based on the data accrued were discussed.

In order to investigate the hypothsised model, multiple regression analysis was applied. The applicable results were reported on and discussed in a descriptive manner. The regression analysis was used to understand the relationships between the independent variables and the dependent variable.

The empirical results reported in Chapter 3 and 4 provide the basis for recommendations to be made to the management of Johnson Controls on how to improve direct labour productivity at Johnson Controls.

Chapter five will consist of a summary of the study, recommendations from the study and conclusion based on the results obtained from the research questionnaire. It will also highlight problems and limitations encountered during the study and opportunities for future research.

CHAPTER 5

SUMMARY, RECOMMENDATIONS AND CONCLUSIONS

5.1 INTRODUCTION

The purpose of this chapter is to summarise the study by reflecting on the main research problem, the sub-problems and to review how it has been treated. Attention was paid to the research problems, observed findings and the limitations of this research will be outlined and addressed with recommendations and a conclusion. Opportunities for further research will also be highlighted and proposed.

5.2 PROBLEMS AND LIMITATIONS

The initial scope of the research was to include the Trim and the Just-in-Time (JIT) plants in the research. Questionnaires were handed to respondents in both plants and data was subsequently reviewed to establish the validity and reliability of the data. Trim plant staff was served with retrenchment notices a week after the questionnaires were handed out. A statistical analysis was done to measure the impact of these results and it was concluded that the Trim plant data needed to be excluded in order to prevent skewed results of the research. The JIT sample results were reliable and the sample size was significant. This would allow for reliable and valid extrapolations of data. No significant challenges were encountered with the administration of the research.

5.3 SUMMARY OF THE STUDY

The main research problem, together with the sub-problems, were reemphasised to reveal the relationships between the theoretical study conducted in chapter 2 to the findings of the study conducted at Johnson Controls Uitenhage JIT plant. This will be discussed in the following manner.

5.3.1 Main problem

The objective of the research was to investigate as to what the critical factors are that lead to direct labour productivity. Johnson Controls instituted various activities to improve direct labour productivity, but they were not successful. Those initiatives that have had some success have been short lived.

The empirical results that reflect the current situation on direct labour productivity, were found to be below the standard that the company has set for itself (i.e. aggregate mean of 3.49 which is below expected aggregate of 4.00). Data reliability and validity tests were conducted to ensure the usefulness of the data. The three areas that scored the lowest agreement ratings were questions PRO3, PRO6 and PRO9. These questions read: "*Equipment that I use is regularly maintained and does not affect me achieving my targets*" (47%), "*Johnson Controls is using the smartest ways to meet its production targets*" (51%) and "*I have all the tools to meet my targets*" (52%). Considering the low scoring it is not a surprise that the productivity levels are low.

Factors of direct labour productivity that were discussed are organisational culture, leadership practices, communication, employee engagement, and skills development and training.

5.3.2 **SUB-PROBLEM**

The sub-problems are discussed below:

Sub-Problem One

How does organisational culture impact on Labor Productivity?

The link between the culture of an organisation and its success was discussed in section 2.6.5 in Chapter 2. The literature review has shown that there is a definite link, in that an organisation with a culture that is committed to serving shareholders, customers and employees will most often be successful.

It should, however, be noted that organisational culture can be constructive or counterproductive. The organisational environment must have a climate of shared value systems, beliefs, traditions and norms. These will have been established and entrenched within the organisation over a certain period of time and will dictate what is considered acceptable behavior.

This construct was included in the first study to understand what the current level of organisational culture was in Johnson Controls and understand its relationship to direct labour productivity. The findings reflected a mean of 3.44 and standard deviation of 0.85. These findings, although considered to be satisfactory can be improved even further by

improving communication and the involvement of employees. The question that scored the lowest mean rating in the organisational culture categories was the one referring to the organisation's not fully considering the effect that management decisions have on employees.

Sub-Problem Two

How do Leadership Practices impact on direct labour productivity at Johnson Controls?

In chapter 2 various leadership traits and behavioral leadership theories were discussed. This is one of the most complex sub variables as leadership behavior and influences are considered to be one of the most influential drivers toward productivity. Literature has shown that it is the responsibility of the leader to create an environment that stimulates higher productivity in the organisation. Research has also shown that Leadership capital is widely considered to be the key driver to productivity, rather than Human capital.

The data validity was established through the determination of an acceptable 0.87 (Table 4.1) score based on the Cronbach's alpha coefficient.

The acceptance of the validity test was obtained via factor analysis, which recorded an overall rating of 0.71 (refer to Table 4.15). Descriptive statistics as reported in Table 4.13 reflected that the overall mean of the rating for leadership practices at Johnson Controls was just above satisfactory (mean score of 3.04). This is below the projected standard that Johnson Controls has set for itself. Literature has also indicated that an organisation needs to be strong in this area as it is the key ingredient that would lead to productivity. What was concerning is the level of involvement of employees in decision making and problem solving processes. This can be seen from the low agreement scores to questions such as "*team members' ideas and views are welcomed*…." and "*my supervisor implements strategies after involving*…"

Distrust is once again highlighted through the response to the statement *"my supervisor has my best interest at heart.*" Only 41% of the respondents agreed with this statement, while 34% disagreed and 25% were uncertain.

The objective of the study was to reveal the current state of leadership as viewed by employees and investigating the statistical link of leadership to direct labour productivity has been found to be statistically significant (0.71 correlation coefficient).

Sub-Problem Three

How does communication impact on Direct Labour Productivity?

Literature reviewed in chapter 2 revealed that there is a direct relationship between an organisation's weak performance and internal communications crisis.

The findings obtained from Table 4.1 revealed that a 0.85 score was loaded for the Cronbach's alpha which can be viewed as an acceptable reliability factor. Acceptance of the validity test was obtained via the factor analysis, which recorded an overall rating of 0.84 (refer to table 4.15). The empirical finding gained in Table 4.12 reflected that the overall mean of the rating of communication at Johnson Controls was just above satisfactory (average mean - 3.06). This is below the projected standard that Johnson Controls has set for itself. The empirical results confirmed that there is a statistically significant correlation between communication and productivity.

Considering the individual questions and their ratings, the items that scored the highest rating was the 65 percent agreement for the statement "*my supervisor clearly communicates what is expected of me*." The items with the highest disagreement were statements Com1 (49%) and Com2 (41%). These statements read "*at Johnson Controls there is open and honest two-way communication*" and "*my supervisor is an effective listener.*" What is concerning about these two questions is that they refer to the underlying trust element which will be a suggested area for future research and action.

Sub-Problem Four

How does employee engagement impact on direct labour productivity at Johnson Controls Uitenhage JIT Plant?

Research has shown that employee engagement impacts on all aspects of human resources. There is a definite correlation between staff engagement and organisational performance. Employees that are engaged will encourage innovation and drive the organisation forward. This section aims to establish what the general employee engagement level currently is at Johnson Controls and how this relates to direct labour productivity.

The findings observed in Table 4.1 presented a 0.82 reliability factor as measured using Cronbach's alpha methodology. The data validity assurance was obtained from factor

analysis that was conducted, reflecting a rating of 0.81 (Refer table 4.15). Empirical results revealed that employee engagement scored an average mean of 3.14, indicating employee's level of satisfaction about the offering of employee engagement at Johnson Controls.

What is concerning is the level of employees who are indifferent on some of the questions. The two statements that had the highest level of uncertainty were statements EET5 and EET6 (Refer table 4.9). The statements read "*Johnson Controls values my contribution*" and "*I am more productive as a result of engagement activities at Johnson Controls."* The nature of these two results indicates that there could be a leadership issue where the engagement factors are either not implemented effectively and the leader interaction with the team needs to be improved. This thinking is reemphasised by the rating on the question EET3 (highest disagreement 45%), "*my supervisor provides me with recognition for doing a good job."* This will be an interesting topic to be researched further at a later stage.

Sub-Problem Five

How do skills development and training impact on direct labour productivity at Johnson Controls Uitenhage JIT Plant?

The workforce skills make an impact on the performance of an organisation. These organisational skills must be improved by means of a careful recruitment process, internal training and the development of the workforce. It is furthermore very important to maintain good leadership and good communication skills within the organisation. This will contribute towards turning potential skills into actual skills.

The purpose of this section is firstly, what is the skills development and training level currently at Johnson Controls and secondly, how does this relate to direct labour productivity? The reliability of the researched data was validated through determining the Cronbach's alpha coefficient, which revealed a core of 0.84. The validity of the data was in turn determined through calculating factor analysis which recorded an overall rating of 0.88 (refer to Table 4.15). Descriptive analysis revealed an average mean of 3.57 (standard deviation 1.15). This can be considered an above satisfactory result for the company. This is a good indication that employees are acknowledging that Johnson Controls is managing this construct well. The statistical analysis indicated that there is a high correlation between direct

labour productivity and skills development factors, in fact this element scored the highest amongst the regression analysis statistically significant coefficients.

5.4 RECOMMENDATIONS

The research conducted has led to meaningful and insightful results for the automotive component industry in general and more specifically Johnson Controls. Recommendations based on the research can be provided as follows:

The direct labour productivity strategy must be engraved into the business strategy of Johnson Controls. This has to be characterised by Johnson Controls regularly measuring and analysing its direct labour productivity levels relative to the factors identified. Looking at the manner and level of details that this construct measured currently, it indicates that more detailed analysis need to be made in order to fully understand the true root causes.

Considering the elements that had high disagreement scores it is recommended that Johnson Controls review its equipment maintenance processes as these indicated that 39 percent of respondents were of the opinion that this was not administered adequately and that it did affect them achieving their targets. This was followed by 33 percent of the respondents who felt that they did not have the tools to meet their targets. Based on the level of these issues, it indicates that informed, active and involved leadership is absent in the process. Almost a third, 29 percent of the respondents, felt that productivity losses were not adequately analysed and corrective actions were not taken in all departments. This is indicative of an ineffective leadership typical of “no bottoms up” involvement and ineffective, asymmetrical communication. These concepts need to be unpacked further, measured and effective actions implemented to adequately address the issue. Furthermore, 25 percent of the respondents indicated that Johnson Controls is using the smartest ways to meet its targets. This indicates that operators are of the opinion that activities could be done differently, which would be more effective. It should be noted that 67.5 percent of the respondents have been working for Johnson Controls for more than fiev years. These ideas need to be cultivated, assimilated and actions be taken to implement and acknowledge these ideas. This is a vital ingredient in the company achieving innovation, which Johnson Controls has cited as being part of its strategic objectives for future growth.

With the strengthening of leadership abilities this problem should be more easily dissected and the necessary corrective action introduced, which would bring about direct labour productivity.

With regard to the organisational culture, the findings, although considered to be satisfactory, can be improved even further by improving communication and involvement with employees. The element that scored the lowest was the construct that management considered the impact on employees and their colleagues before making decisions. This once again reflects on the level of communication, leadership, involvement and inclusion of employees in the process. There appears to be an element of distrust. It is important for the company to understand what the cause of this element of distrust is. The only way to get through this is to have open and honest communication, even if the outcome has negative implications for either party.

Leadership development needs to be at all levels. Specific attention needs to be paid to the manner in which interactions are done with the staff, with the emphasis of direct involvement of the decision making processes. Leadership styles need to be reviewed to establish which is the most appropriate for the specific situation. An assessment needs to be done on management's inability to operate in a diverse environment together with their ability to accept change easily. Management needs to have the necessary cultural intelligence to interact effectively with employees. Management needs to have a clear long-term view of their roles so that they buy into the process and vision. The reverse response to this is that employees need to have a desire to learn and implement new things. Workers should not resist change and need to take responsibility for their functions. Staff needs to have autonomy on the shop floor when it comes to problems solving. This will create an environment where employees' ideas can be cultivated into innovative ways of doing activities in a more creative way. This process obviously has to be monitored and managed closely. In the past courses have been offered to production leaders but the challenge remained that Team Leaders did not successfully transpose the knowledge that they learnt into their work practice. It can therefore be recommended that a mentoring programme be implemented so that the Team Leader gets regular guidance and support. Development will have to be done so that the full responsibility and accountability is with the respective leader at the end of the process.

Communication is an area that could be improved further. It is important for people to feel part of the company and that their views are being valued. This creates an atmosphere of belonging. Breaking down communication processes leads to disengaged staff and further breaks down the environment that would bring forward innovation and creativity. As mentioned earlier leaders need to 'walk the talk' and communicate openly and honestly. Johnson Controls has instituted "you talk" sessions where employees have an opportunity to raise their concerns with members of senior staff. The improvement in this process will be the scheduling of follow-up sessions and providing feedback to the groups that participated. This will demonstrate to employees that the company is listening to them. Feedback needs to be given irrespective of the outcome whether positive or negative. Trust will be built over a period of time, provided that the participants and leaders honour the process.

With regard to employee engagement it is recommended that the organisation unpacks the concept more and the various elements of engagement must be better understood. The overall researched score for this construct was mediocre and if the company wants to distinguish itself it will have to improve the rating on this concept significantly. Research has shown that there is a clear and direct link between an engaged workforce and high performing organisations.

Although this area scored the highest correlation amongst the factors, one suggestion is that training and development be reviewed on an ongoing basis. Research has revealed that this was not consistently applied through all departments. It is suggested that staff development is adopted as a strategy and applied uniformly throughout the organisation.

Considering that the company has retrenched almost half of its direct staff during the year it is imperative that Johnson Controls reaffirm job security for the remaining staff. Failure to do this could result in people being distracted and unduly stressed because of this uncertainty.

5.5 OPPORTUNITIES FOR FURTHER RESEARCH

Further research can be conducted using this study as a basis. During the process of this study it was discovered that there are several areas of study that relate to this research problem. Possible areas for further research identified included the following:

What are the strategies for the successful implementation of direct labour efficiency that could be used at Johnson Controls?

Other automotive component manufacturers and most certainly other organisations can also benefit from this study.

More in-depth research can be conducted to determine what other factors influence direct labour productivity.

The relationship between engagement and involvement and organisational direct labour productivity can be further explored and researched.

The relationship between leadership style and direct labour productivity can also be researched further.

The relationship between effective lean implementation and its limitations on direct labour productivity also needs further attention.

5.6 CONCLUSION

Organisations in South Africa are considered to be relatively new players in the global market environment. They have to compete with aggressive competitors in the local market and also on the international market. It is therefore of utmost importance that they not only attain acceptable benchmark levels but that they set the standard for other organisations. In saying this it is imperative that Johnson Controls investigates what the barriers are that prevent it from attaining direct labour productivity and excellence in each of the sub variables identified.

The objective of the study was to investigate which were the determinants of direct labour productivity at Johnson Controls. A hypothesised model was developed which stated that improved direct labour productivity could be achieved through improving organisational culture, leadership practices, communication, employee engagement and skills development and training.

A literature review was explored to understand how the direct labour productivity factors could be applied to bring about improved direct labour productivity. The empirical results revealed a high correlation of the factors identified to direct labour productivity. Most of the scores were mediocre and each needs to be improved if Johnson Controls is to distinguish itself from its competitors in the market.

Limitations of the research were highlighted and recommendations were made identifying areas that could be researched further.

The research highlighted areas that, if improved and reinforced, will increase direct labour productivity of the workforce of Johnson Controls. The study also identified areas of weakness that should be addressed.

In conclusion, the research study findings were directly related to the main research problem and insight was provided on the sub-problems.

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ANNEXURE 1

QUESTIONAIRE COVERING LETTER

Dear Respondent

FACTORS TO IMPROVE DIRECT LABOUR PRODUCTIVITY AT JOHNSON CONTROLS SOUTH AFRICA (JCI)

I am studying towards my MBA (Masters in Business Administration) degree at the Nelson Mandela Metropolitan University Business School.

I am conducting research on factors influencing labour productivity with the aim to improve productivity at Johnson Controls Automotive SA (Pty) Ltd. I believe that my study will make an important contribution through identifying some of the critical factors contributing to improved labour productivity in the automotive industry in South Africa.

You are part of our selected sample of respondents whose views we seek on the above-mentioned matter. We would therefore appreciate it if you could answer a few questions. It should not take more than fifteen minutes of your time and we want to thank you in advance for your co-operation.

There are no correct or incorrect answers. Please answer the questions as accurately as possible. For each statement, tick the number which best describes your experience or perception. For example, if you strongly agree with the statement, tick the number 5. If you strongly disagree with the statement, tick the number 1. **Tick only one answer for each statement and answer all questions please. Please note that the word "company" refers to Johnson Controls.**

Please note that your participation in this study is entirely voluntary and that you have the right to withdraw from the study at any stage.

Yours sincerely

Conrad Brown

Researcher

ANNEXURE 2

SECTION A
BIOGRAPHICAL DATA

Please answer all statements by marking it with an 'X' in the appropriate box.

A.1 POSITION IN JCI:

Hourly-paid	
Salaried Staff	
Salaried Technical or Professional	
Team leader / Technician	
Manager	
Other (Please specify)	

A.2 DEPARTMENT

PRODUCTION	
QUALITY	
ENGINEERING	
MAINTERNANCE	
CONTINUOUS IMPROVEMENT	
FINANCE	
COMMERCIAL	
HUMAN RESOURCES	
SUPPLY CHAIN/LOGISTICS	
OTHER : (PLEASE SPECIFY)	

A.3 GENDER

Male	
Female	

A.4 AGE

Below 20 years	
21 - 30 years	
31 - 40 years	
41 - 50 years	
51 - 60 years	
61 years and above	

A.5 LENGTH OF EMPLOYMENT AT JCI:

Less than 1 year	
1 - 5 years	
6 - 10 years	
11 - 15 years	
16 - 21 years	
More than 21 years	

A.6 HIGHEST LEVEL OF QUALIFICATION:

Matric (Grade 12)	
National Diploma (Matric +3 years study)	
Degree	
Post Graduate Degree	
Other (please specify)	

ANNEXURE 3

Question No.	Statement	Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
		Please tick (√) the box for each statement that reflects your opinion (Please answer all questions)				
1	In the company productivity performance levels are viewed as one of the most important measurable					
2	Employees get regular feedback of their performance					
3	I fully understand how things are done at Johnson Controls and apply that as a guide in my job					
4	My supervisor has my best interests at heart					
5	At Johnson Controls there is open and honest two way communication					
6	I am paid fairly for the work I do.					
7	I perform duties to the best of my abilities					

8	Employees agree that they have adequate skills to perform their job.					
9	My supervisor considers the effect on me and my colleagues when making decisions					
10	My Supervisor implement strategies after involving the team					

Question No.	Statement	Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
		Please tick (√) the box for each statement that reflects your opinion (Please answer all questions)				
11	My supervisor is an effective listener					
12	I would gladly refer a good friend or family member to Johnson Controls for employment					
13	Johnson Controls is using the smartest ways to meet it's production targets.					
14	I take pride and ownership for my work.					
15	Johnson Controls encourages innovation which helps me to be creative in my job.					
16	My supervisor is an outstanding leader					
17	Information affecting all Johnson Control employees are communicated transparently to employees at all levels					

18	My supervisor provides me with recognition for doing good work					
19	I am successful in my job.					
20	In the last six months I had an opportunity to learn and develop.					

Question No.	Statement	Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
		Please tick (√) the box for each statement that reflects your opinion (Please answer all questions)				
21	Through improved training I can do my function more efficiently.					
22	I am clear on what my duties and responsibilities are.					
23	Team members' ideas and views are welcomed by leadership					
24	Johnson Controls has an open door policy to encourage communication between itself and its employees					
25	Productivity losses are identified and root cause analysis conducted for corrective actions in all departments					
26	Johnson Controls values my contribution					
27	I am regularly updated with aspects critical to my function.					

28	Johnson controls has an effective communication system which assist me in doing my job better.					
29	My supervisor regularly reviews the team's targets to ensure performance targets and standards are achieved					
30	My supervisor clearly communicates what is expected of me.					

Question No.	**Statement**	**Strongly disagree**	**Disagree**	**Uncertain**	**Agree**	**Strongly agree**
		Please tick (√) the box for each statement that reflects your opinion (Please answer all questions)				
31	I have all the tools required to meet my targets.					
32	I am more productive as a result of engagement activities at Johnson Controls					
33	Due to my skill set I perform better that what is required in my performance indicators.					
34	Johnson Controls provides for constant interaction with our customers to understand their needs and tailor our services to their expectation.					
35	My supervisor helps to remove obstacles preventing me from doing my job effectively					
36	I receive all the communication and information I need in order to do my job.					

PRO - PRODUCTIVITY TESTING

37	Standard methods of operation are in place					
38	The teams understand the functioning and importance of standard procedures.					
39	Equipment that I use is regularly maintained and does not affect me achieving my targets.					

QUESTIONNAIRE 5: PRODUCTIVITY AT JOHNSON CONTROLS							
		CODE	**Strongly disagree**	**Disagree**	**Uncertain**	**Agree**	**Strongly agree**
	Statement		**Please tick (√) the box for each statement that reflects your opinion (Please answer all questions)**				
1	In the company productivity performance levels are viewed as one of the most important measurable	PRO 1					
2	I perform duties to the best of my abilities	PRO 2					
3	Johnson Controls are using the smartest ways to meet it's production targets.	PRO 3					
4	I am successful in my job.	PRO 4					
5	Productivity losses are identified and root cause analysis conducted for corrective actions in all departments	PRO 5					
6	I have all the tools required to meet my targets.	PRO 6					
7	Standard methods of operation are in place	PRO 7					
8	The team understands the functioning and importance of standard procedures.	PRO 8					
9	Equipment that I use is regularly maintained and does not affect me archiving my targets.	PRO 9					
Thank you for participating in the survey							

CUL - ORGANISATION CULTURE TESTING							
QUESTIONNAIRE 2: ORGANISATIONAL CULTURE AT JOHNSON CONTROLS							
		CODE	**Strongly disagree**	**Disagree**	**Uncertain**	**Agree**	**Strongly agree**
	Statement		**Please tick (√) the box for each statement that reflects your opinion (Please answer all questions)**				
1	I fully understand how things are done at Johnson Controls and apply that as a guide in my job	CUL 1					
2	My supervisor considers the effect on me and my colleague when making decisions	CUL 2					
3	Johnson Controls encourages innovation which helps me to be creative in my job.	CUL 3					
4	I am clear on what my duties and responsibilities are.	CUL 4					
5	Johnson controls has an effective communication system which assist me in doing my job better.	CUL 5					
6	Johnson Controls provides for constant interaction with our customers to understand their needs and tailor our services to their expectation.	CUL 6					
Thank you for participating in the survey							

LPT - LEADERSHIP PRACTICES TESTING

QUESTIONNAIRE 3: LEADERSHIP PRACTICES AT JOHNSON CONTROLS

	Statement	CODE	Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
			Please tick (√) the box for each statement that reflects your opinion (Please answer all questions)				
1	My supervisor has my best interest at heart	LPT 1					
2	My Supervisor implement strategies after involving the team	LPT 2					
3	My supervisor is an outstanding leader	LPT 3					
4	Team members' ideas and views are welcomed by leadership	LPT 4					
5	My supervisor regularly reviews the team's targets to ensure performance targets and standards are achieved	LPT 5					
6	My supervisor helps to remove obstacles preventing me from doing my job effectively	LPT 6					

Thank you for participating in the survey

COM - COMMUNICATION TESTING							
QUESTIONNAIRE 4: COMMUNICATION AT JOHNSON CONTROLS							
		CODE	**Strongly disagree**	**Disagree**	**Uncertain**	**Agree**	**Strongly agree**
	Statement		**Please tick (√) the box for each statement that reflects your opinion (Please answer all questions)**				
1	At Johnson Controls there is open and honest two way communication	COM 1					
2	My supervisor is an effective listener	COM 2					
3	Information affecting all Johnson Control employees are communicated transparently to employees at all levels	COM 3					
4	Johnson Controls has an open door policy to encourage communication between itself and its employees	COM 4					
5	My supervisor clearly communicates what is expected of me.	COM 5					
6	I receive all the communication and information I need in order to do my job.	COM 6					
Thank you for participating in the survey							

EET - EEMPLOYEE ENGAGEMENT TESTING							
QUESTIONNAIRE 5: EMPLOYEE ENGAGEMENT AT JOHNSON CONTROLS							
		CODE	Strongly disagree	Disagree	Uncertain	Agree	Strongly agree
	Statement		Please tick (√) the box for each statement that reflects your opinion (Please answer all questions)				
1	I am paid fairly for the work I do.	EET 1					
2	I would gladly refer a good friend or family member to Johnson Controls for employment	EET 2					
3	My supervisor provides me with recognition for doing good work	EET 3					
4	In the last six months I had an opportunity to learn and develop.	EET 4					
5	Johnson Controls values my contribution	EET 5					
6	I am more productive as a result of engagement activities at Johnson Controls	EET 6					
Thank you for participating in the survey							

SDT - IMPACT OF SKILLS DEVELOPMENT AND TRAINING ON PRODUCTIVITY							
QUESTIONNAIRE 6: SKILLS DEVELOMENT AND TRAINING AT JOHNSON CONTROLS							
		CODE	**Strongly disagree**	**Disagree**	**Uncertain**	**Agree**	**Strongly agree**
	Statement		**Please tick (√) the box for each statement that reflects your opinion (Please answer all questions)**				
1	Employee get regular feedback of their performance	SDT 1					
2	Employees agree that they have adequate skills to perform their job.	SDT 2					
3	I take pride and ownership for my work.	SDT 3					
4	Through improved training I can do my function more efficiently.	SDT 4					
5	I am regularly updated with aspect critical to my function.	SDT 5					
6	Due to my skill set I perform better that what is required in my performance indicators.	SDT 6					
Thank you for participating in the survey							