THE EFFECT OF CORPORATE CULTURE ON PERFORMANCE OF PUBLIC WATER COMPANIES AND SEWERAGE IN MAKUENI AND MACHAKOS COUNTIES, KENYA

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A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF BUSINESS AND ENTREPRENEURSHIP IN THE SCHOOL OF BUSINESS AND ECONOMICS IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF A DEGREE OF MASTER’S IN BUSINESS ADMINISTRATION OF THE SOUTH EASTERN KENYA UNIVERSITY.

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DECLARATION

This project is my original work and has not been presented for a degree in any other University.

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I am greatly indebted to my colleagues at the Great Ventures Company limited for making valuable contributions and observations as I prepared this research project. This, I cannot take for granted.

To my wife Esther, children Liz and Presh, thank you for your true love and unconditional support. You are my pillar of strength. May the almighty God bless you abundantly.
DEDICATION

I dedicate this research to my lovely wife Esther, my children Elizabeth and Precious and my mother Monica for their presence and support. This work is also dedicated to my late father, my late grandmother and late Rhoda Mulumba. May the lord rest their lives in peace.
ABSTRACT
This study sought to understand the effects of corporate culture on performance of water and sewerage companies in southeastern Kenya. It specifically focused on four water and sewerage companies in Machakos and Makueni Counties namely: Machakos Water and Sewerage, Mavoko Water and sewerage Company, Makindu-Kibwezi Water and Sewerage Company, and Wote Water and Sewerage Company. The specific objectives were to analyze the effect of employee involvement, norms and values and organizational artifacts on performance of water companies. The target population was 188 which comprised all levels of employees working with the four water and sewerage companies. Using the stratified sampling, a sample size of 136 (72%) employees was selected and used in the study. Data was collected using a structured questionnaire which was distributed to the 136 respondents. The statistical Package for Social Science program (SPSS) was utilized to analyze the data collected and presented by use of pie charts, bar graphs and tables to make the necessary recommendations and conclusions. Findings of this study indicated a positive relationship between employee involvement in company activities and performance r = 0.64, artifacts and performance r = 0.90, and norms and values and performance r = 0.94. From an individual company basis, it was concluded that Mavoko and Makindu-Kibwezi Water and Sewerage Companies recorded a high performance a fact attributable to a much stronger corporate culture. The outstanding performance was indicated by a high level of water coverage, low level of non water revenue and fairly high level of revenue collection. This high performance was attributed to a strong corporate culture as evidenced by: a high level of employee involvement on company affairs, strong organizational norms and values and a strong belief and adherence on organizational artifacts. Companies that did not perform well such as Machakos W&SC tended to be autocratic and less participatory. Employees in these companies did not adhere to their organizational norms and did not believe that it was important to do so. Lastly poor performance was common among companies that did not adhere to their organizational artifacts. The study recommends that employers should be encouraged to embrace participatory approach in order to improve company performance, Water and sewerage companies should embrace modern technology for speedy communication of water access-related information and heavy penalties should be levied on defaulters.
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ACRONYMS

KPLC : Kenya Power and lightening

MAKW&SC : Makindu-Kibwezi Water and Sewerage Company Limited

MACW&SC: Machakos Water and Sewerage Company Limited

MAVW&SC: Mavoko Water and Sewerage Company Limited

O&M: Operation and Maintenance

SMS: Short Message Services

UFW : Unaccounted for water

NRW: Non Revenue Water

WSPs: Water Service Providers

WASREB: Water Services Regulatory Board

WOW&SC: Wote Water and Sewerage Company Limited
DEFINITION OF TERMS AND CONCEPTS

**Corporate culture:** corporate culture is the collection of beliefs, expectations, and values learned and shared by a corporation’s members and transmitted from one generation of employees to another.

**M-PESA:** A mobile phone based money transfer and micro-financing service

**Performance:** Performance can be defined as the capability of an organization to accomplish its goals effectively and efficiently using resources.

**Water service providers:** these are commercially oriented public enterprises registered under water services board to assist in provision water and sanitation service provision

**Water service board:** An institution created as a result of water sector reforms with responsibility for water and sanitation service provision

**WASREB:** A non-commercial State Corporation established in March 2003 as part of the comprehensive reforms of the water sector whose mandate is to oversee the implementation of policies and strategies relating to provision of water and sewerage services.
CHAPTER ONE

INTRODUCTION

1.1 Background

Water is the most important natural resource, indispensable for life and at the same
time the back borne of growth and prosperity for mankind. Just like food, water is
a basic human need which is also a fundamental right that Kenyan citizens need to
enjoy without any limitation. The constitution of Kenya in Article 43(1) (d) states
that every person has the right to clean and safe water in adequate quantities. With
these rights stipulated no individual or entity should seize the power to arbitrarily
control the price of or access to this source of life. It is the mandate of the
government and all other stakeholders involved to ensure that this basic need and
human right is available, accessible, adequate, safe and affordable to all its
citizens.

The Government Kenya prioritized increasing access to sustainable and affordable
water services within its overall policy framework of the economic recovery
strategy for wealth and employment creation. Water supply and sanitation are
among the key issues emphasized under the social pillar of the Kenya Vision 2030.
The Vision envisages availability and access of water to all by the year 2030.
The Concern of the effectiveness, productivity, efficiency and excellence of
organizations is a subject that has motivated the study of many scholars. It has
served as a unifying theme for over a century of research on the management and
design of organizations.
Organizations are encouraging employees to be more responsible and act and think like owners of the organization. They are encouraging teamwork and the formation of teams to work together effectively, share the same values, and make decisions to meet the organization’s primary goals and objectives.

Culture has a vital and measurable impact on the organization’s ability to deliver on its strategy. An effective corporate culture aligns with the business strategy to ensure that the company meets its long-term goals. According to Schein (1992), the two main reasons why culture develops in organizations are due to external adaptation and internal integration. External adaptation reflects an evolutionary approach to culture and suggests that cultures develop and persist because they help an organization to survive and flourish. Internal integration is an important function since social structures are required for organizations to exist.

Most studies indicate that corporate culture has impact on an organization’s long-term financial performance and is an important factor in determining the success or failure of organizations during the next decade. Kotter and Heskett (1992) established that corporate culture has a significant effect on an organization’s long-term sustainability and economic performance. In their study, on over 200 Companies in the US, Kotter and Heskett found out that organizations with performance increasing culture or strong culture raised the income up by 76.5% between 1977 and 1988, and only 1% increase in a same period for firms without performance enhancing culture (Gallagher, 2008).
According to Kandula (2006) the key to good performance is a strong culture. He further maintains that due to difference in corporate culture, same strategies do not yield same result for two organizations in the same industry and in the same location. A 2003 School study reported that culture has a significant impact on an organization’s long-term economic performance. Additionally, a 2002 Corporate Leadership Council study found that cultural traits such as risk taking, internal communications, and flexibility are some of the most important drivers of performance, and may impact individual performance.

1.2 Statement of Problem

Water scarcity is a serious problem in Kenya’s urban centers which have continued to receive huge populations resulting from rural urban migration. The situation is further aggravated by the phenomenon of climate change and poor land use in catchment areas. Although the Government of Kenya has been undertaking a series of reforms aimed at enhancing quality, efficiency and transparency in service delivery by Water sector institutions, access to sustainable water supply services remains a challenge.

Most challenging is the fact that several of the water companies, which are charged with the responsibility of providing water to urban residents, appear not to perform effectively in ensuring an equitable supply of this precious commodity. This notwithstanding, Water Service Providers face the challenge of developing the capacity of their staff to take on a new corporate and commercial approach to
water and sanitation services. Their performance in terms of water quality, water production, water availability, unaccounted for water (UFW), extension of service provision to low-income residential areas, improvement of customer service and cost reduction is also a problem.

Unfortunately, most studies that have previously investigated issues surrounding the non performance of the existing water and sewerage companies focused on economic factors of organizations in the developed world with very few concentrating on the developing countries especially Kenya. Besides economic factors corporate culture has been found to have a significant impact on business and commercial organizations (Galaghar and Brown, 2007). Only a few of the studies have looked into the issue concerning effect of corporate culture on performance of recently formed water companies in Kenya. This study therefore intended to fill this gap by investigating the effect of corporate culture on performance of public water companies in South Eastern Kenya.

1.3 Objectives of the Study

The main objective of the study was to investigate the effect of corporate culture on performance of public water companies in South Eastern Kenya.

The specific objectives were:

1. To determine the effect of employee involvement on performance of public water companies
2. To establish the effect of organizational norms and values on performance of public water companies
3. To establish whether organizational artifacts can influence performance of public water companies

1.4. Research Question

The research mainly aimed at investigating the impact of corporate culture on performance of public water companies in Kenya. The research questions included:

1. Does employee involvement affect performance of Public water companies?
2. To what extend does of norms and values have effect on performance of public water companies?
3. Can organizational artifacts influence the performance of Public water companies?

1.5 Justification and Significance of the Study

Most of the water companies in Kenya have not performed well since their establishment well as evidenced by the large population in Kenya without access to clean water. Many Kenyans still draw water from rivers, wells and dams that are not protected.

The research findings will contribute to the broader research community by enhancing existing knowledge and generating new knowledge on corporate culture.
and performance. Furthermore, it will also enhance the understanding of the effect of a positive corporate culture on corporate performance.

In addition, the study will be of great benefit to many shareholders who include students and researchers who are interested in furthering their knowledge of corporate culture and performance. The research findings will add new insights to the present state of knowledge in the corporate field and will be useful in academic works and in improving service delivery in water companies in Kenya.

For many years, service delivery has been wanting. Clients have always complained of poor service delivery by water companies. This study is important as it exposes factors that hinder service delivery which if well addressed will turn around current situation of poor service provision. The findings of this study will therefore be useful in identifying areas of weaknesses with respect to service delivery and assist organizations and the government in streamlining service provision in the industry.

The study determines whether the organizational culture has a positive impact on the performance of public water Companies. The study also highlights the challenges faced by organizations regarding performance and suggests possible solutions. This study will also be of great benefit to practicing managers in water Companies that might be willing to adapt its findings in managing and strengthening the performance of their companies.
1.6 The Scope of the Study

There are 9 (nine) Water and Sewerage companies (W&SCs) in Machakos and Makueni Counties. This study focused only on four Water and Sewerage companies that serve major towns. The four companies selected include:- Machakos Water and Sewerage Company (MACWS&C), Mavoko Water and Sewerage company (MAVW&SC) in Machakos county Makindu-Kibwezi Water Company (MAKIW&SC) and Wote Water and Sewerage company (WOW&SC) in Makueni County. The researcher focused on the four companies because they serve towns with large populations in the counties.

1.7 Limitations of the Study

The researcher encountered limitations such as the inadequacy of the research instrument to capture all the required information, and failure of some respondents to fill the questionnaire. The Researcher was also faced by time limitation since the study was done while still working.
CHAPTER TWO
LITERATURE REVIEW

2.1 Overview of Corporate Culture

Corporate culture fulfills several important functions in an organization, which include: conveying a sense of identity for employees, generating employee's commitment to something greater than themselves. Culture also adds to the stability of the organization as a social system. It serves as a frame of reference for employees to use to make sense out of organizational activities and as a guide for appropriate behavior as well as shaping the behavior of people in the corporation. A strong culture should not only promote survival, but also create the basis for a superior competitive position. Schein, (2004) argued that the survival of culture in an organization lies upon national and foreign culture differentiation in culture management.

Corporate culture has generally been interrelated to management (Kotter and Heskett, 1992). While it has been suggested that culture accounts for the economic performance of various countries the idea of a corporate culture also serves as a basis for understanding the differences that may exist between successful companies operating in the same national culture (Schein, 2004 ). There are different types or corporate cultures which include: Strong Culture, Weak Culture, Low Performance Culture, and Adaptive Culture.
2.1.1 Strong Culture

A culture is strong to the extent that employees are held together by widely shared values and beliefs. Culture of an organization is believed strong, where the greater part of the employees embraces the same beliefs and values as concerns to the organization (Deal and Kennedy, 2000). Clearer goals decrease employee uncertainty and this may translate into quicker response to events. Efficiency may be improved through lower monitoring costs because a strong corporate culture provides relevant strategy operating guidelines.

2.1.2 Weak Culture

A weak culture of an organization could be one that is loosely knit. A culture is weak or fragmented to the extent those widely different values and beliefs held lead to employee feelings of separateness from the organization (Smircich, 1983). According to Deal and Kenndy (2004), a weak culture of organization could be one of that is loosely joined. Rules are imposed strictly on the employees that may create diversity between the person’s personal objectives and organizational goals.

2.1.3 Low Performance Culture

Low-performance or unhealthy cultures can derail company strategy thereby negatively affecting performance. Kotter and Heskett (1992) outline several characteristics. First, in a politicized internal environment, fiefdoms can grow at the expense of the organization, issues get resolved on the basis of turf and decisions get made based upon lobbying efforts of key executives. Second, people
are hostile to change. People who want to innovate are thwarted and those who don't rock the boat get rewarded. Third, people adept at organizational machinations get promoted over those with entrepreneurial skills and leadership capabilities. Fourth is executive myopia which manifests itself in a "not invented here" syndrome. People are inward looking and averse to any form of benchmarking comparing themselves to best practices in the industry.

2.1.4 Adaptive Culture

In adaptive cultures, there is a spirit of doing what needs to be done to meet opportunities and threats to create long-term success, provided that core values and ideals are not compromised. Several characteristics have been identified by Kotter & Heskett (1992); First, top management orchestrates response to changing conditions; second, top management is committed to "doing the right thing" by relevant stakeholders (employees, customers, stockholders, suppliers, communities) and attempts to satisfy their concerns. Third, due to management's focus on well being, employees are less threatened by job changes and more willing to support change. And, fourth, innovative, entrepreneurial activity is encouraged, protected and rewarded. Adaptive cultures generally are the most adept at supporting strategy implementation.

2.3 Overview of Corporate Performance

In order to achieve goals and objectives of organization strategies are designed based upon organizational performance (Richardo, 2001). Most practitioners used
the term performance to describe a range of measurements including input efficiency, output efficiency and in some cases transactional efficiency (Stannack, 1996). Organizations adopt different objectives and measurements of organizational performance. Doyle (1994) argued that profitability was the most common measurement used for organizational performance in business organizations. Ricardo (2001) emphasized that successful organizations were those with the highest return on equity and those who had established performance management system.

In the water companies different indicators are used to measure performance for instance, according to WASREB (2013), the key performance indicators in water sector include: average tariff, unit operating cost of water billed, unit cost of water produced, cost recovery on operation and maintenance, cost recovery on O&M through billing, metering ratio, water coverage, revenue collection efficiency, average monthly gross salary per staff, turnover per staff per month and collection per staff per month. Organizational performance could be categorized under financial and non-financial performance.

2.3.1 Financial Performance

Firms’ performance is widely measured through the financial success of the organization. Financial stress for most profit oriented firms can be assessed both in terms of sales as well as profitability measures (Davis et al., 2000). Profit margin, return on assets, return on equity, return on investment and return on sales are
considered to be the common measures of financial profitability. Otieno (2013) conducted a study on financial innovations and performance in the Kenyan water Services companies. He found out that the water services companies which had adopted financial innovation were more sustainable compared to companies which use manual system of operation. The study also revealed that despite water sector reforms which was aimed at making Kenya water services providers effective and efficient in their service delivery, financial innovation is an important aspect basically for the effective service delivery. It was clear that adoption of financial innovation resulted in strong financial results of the water services companies.

Nthiga (2008) conducted a study on economic performance of private water companies generally referred to as water service providers (WSPs). The study found out that high performance among medium WSPs was attributable to high mean of performance of metering ratio compared to the overall. However, large WSPs recorded an average fairness due to poor (low) drinking water quality. The study also found out that very large and large WSPs recorded high performance in effectiveness and efficiency. Medium and small WSPs were reported to be less effective and inefficient. Among medium WSPs, inefficiency was evident from high total O&M expenditure with low total revenue. Meanwhile, small WSPs, reported low collection effectiveness due to significant difference in average cost recovery O&M through billing collection efficiency, average monthly gross salary per staff, low turnover and collection per staff per month with respect to overall mean of these indicators.
2.3.2 Non-Financial Performance

Beside financial indicators as an evaluation of firm’s performance in any industry, other industry specific measures of effectiveness may also reflect the success of the organization. These measures include job satisfaction, organizational commitment, and employee turnover (Mayer and Schoolman, 1992). Job satisfaction represents an attitude rather than behavior, thus it has important implications on employees’ physical and mental health that can affect firm’s performance. Hence, job satisfaction is a key determinant to demonstrate relationship to performance factors and value preferences (Robbins, 2003).

Organizational commitment refers to the willingness to exert effort in order to accomplish the organizational goals and values, and a desire to maintain membership in that organization (ibid). Effectiveness of water companies is mainly measured against the goal of 100% coverage of water in urban areas. Beyond coverage, effectiveness is also measured by quality of services, which implies continuity (24 h/day), pressure, safety (of drinking water), attention to clients, etc.

Thus, percentage of population served, Percentage of house connections, growth of coverage per year, degree of disinfection and availability in number of hours per day are examples of measures used for estimating effectiveness in this sector. To estimate the efficiency of a company in the water sector the specific characteristics
of the industry have to be considered. Water supply and sanitation services are unlikely to be competitive due to the inefficiencies and extremely high costs for they operate as monopolies in various regions. This resulted due to the fact that it is not possible for two companies to construct parallel networks of water and sewerage pipes within a region.

Employee turnover is used as the non-financial measure of organizational performance as it encompasses both job satisfaction and organizational commitment. Employee turnover can be an important indicator of organizational success. Firms that are able to reduce voluntary employee turnover can reduce cost and improve performance. Prior studies have shown how non-financial performance measures can be best combined with financial performance measures to obtain the best measurement of performance in a competitive environment (Hoque and James, 2000).

2.4 Theoretical Review

2.4.1 Schein model

Culture is the most difficult organizational attribute to change, outlasting organizational products, services, founders and leadership and all other physical attributes of the organization. Schein (1992) model illuminates culture from the standpoint of the observer, described by three cognitive levels of company’s culture. At the first and most cursory level of Schein’s model is organizational attributes that can be seen, felt and heard by the uninitiated observer collectively known as artifacts. Included in the artifacts are the facilities, offices, furnishings,
visible awards and recognition, the way that its members dress, how each person visibly interacts with each other and with organizational outsiders, and even company slogans, mission statements and other operational creeds.

Artifacts comprise the physical components of the organization that relay cultural meaning. Daniel Denison (1990) describes artifacts as the tangible aspects of culture shared by members of an organization. Verbal, behavioral and physical artifacts are the surface manifestations of corporate culture. Rituals, the collective interpersonal behavior and values as demonstrated by that behavior, constitute the fabric of an organization's culture. The contents of myths, stories, and sagas reveal the history of an organization and influence how people understand what their organization values and beliefs. Language, stories, and myths are examples of verbal artifacts and are represented in rituals and ceremonies. Technology and art exhibited by members or an organization are examples of physical artifacts.

The second cognitive level deals with the professed culture of an organization's members are the values. Shared values are individuals' preferences regarding certain aspects of the organization’s culture (loyalty, customer service). At this level, local and personal values are widely expressed within the organization. Basic beliefs and assumptions include individuals' impressions about the trustworthiness and supportiveness of an organization, and are often deeply ingrained within the organization’s culture. Organizational behavior at this level usually can be studied by interviewing the organization's membership and using questionnaires to gather attitudes about organizational membership.
At the third cognitive level, the organization's tacit assumptions are found. These are the elements of culture that are unseen and not cognitively identified in everyday interactions between organizational members. Additionally, these are the elements of culture which are often taboo to discuss inside the organization. Many of these 'unspoken rules' exist without the conscious knowledge of the membership. Those with sufficient experience to understand this deepest level of organizational culture usually become acclimatized to its attributes over time, thus reinforcing the invisibility of their existence.

2.4.2 Hofstede's Cultural Dimensions Theory

Hofstede’s (1984) he identified four work-related cultural dimensions, including power distance, uncertainty avoidance, individualism, and masculinity, to analyze work-related cultural values in different countries. The first dimension, power distance, refers to the power inequality between superiors and subordinates. In high power distance organizations, organizational hierarchy is obvious. There is a line between managers and subordinates. Different from high power distance organizations, low power distance organizations tend to have a flat organizational structure.

The second dimension, uncertainty avoidance, refers to people’s tolerance of ambiguity. In high uncertainty avoidance organizations, there are more written rules in order to reduce uncertainty. In low uncertainty avoidance organizations, there are fewer written rules and rituals. The third dimension, individualism-
collectivism, refers to how people value themselves and their groups/organizations. People with high individualistic values tend to care about self-actualization and career progressing the organization, whereas people with low individualistic values tend to value organizational benefits more than their own interests.

The fourth dimension, masculinity (MAS), defines the gender roles in organizations. In high MAS organizations, very few women can get higher-level and better-paying jobs. In low MAS organizations, women can get more equitable organizational status. The fifth cultural dimension is called Confucian Work Dynamic. The Chinese Culture Connection (1987) conducted a Chinese Value Survey (CVS) based on traditional Chinese cultural values and identified this non-Western cultural dimension. This theory cannot be useful to this study because it focuses on cultures among nation and also does not capture all the cultural elements in our study.

### 2.4.3 Daniel Denison’s model

This study used, Daniel Denison’s model (1990) which asserts that corporate culture can be described by four general dimensions namely: Mission, Adaptability, Involvement and Consistency.
2.4.3.1 Involvement

Companies that strongly encourage employee involvement create a sense of ownership and responsibility to the employees. They rely on informal, voluntary and implied control systems, rather than formal, explicit, bureaucratic control systems (Denison, 1990). Effective organizations empower their people, build their organizations around teams, and develop human capability at all levels (Lawler, 1996). Executives, managers, and employees are committed to their work and feel that they own a piece of the organization. Employee involvement makes people at all levels feel that they have some input into decisions that affect their work and that their work is directly connected to the goals of the organization.

2.4.3.2 Consistency

Consistency provides a central source of integration, coordination and control. Consistent organizations develop a mindset of organizational systems that create an internal system of governance based on consensual support (Denison, 1990). Organizations also tend to be effective because they have “strong” cultures that are highly consistent, well coordinated, and well integrated. Behavior is rooted in a set of core values, and leaders and followers are skilled at reaching agreement even when there are diverse points of view (Block, 1991). This type of consistency is a powerful source of stability and internal integration that results from a common mindset and a high degree of conformity.
2.4.3.3 Adaptability

Adaptability is the ability to translate the demands of the business environment into action. Organizations hold a system of norms and beliefs that support the organization’s capacity to receive, interpret and translate signals from its environment into internal behavioral changes that increase its chances for survival and growth (Denison, 1990). Adaptable organizations are driven by their customers, take risks and learn from their mistakes, and have capability and experience at creating change (Nadler, 1998). They are continuously changing the system so that they are improving the organizations’ collective abilities to provide value for their customers.

2.4.3.4 Mission

This trait consists of the definition of a meaningful long term direction for the organization by defining a social role and external goals for the organization. It provides a clear direction and goals that serve to define an appropriate course of action for an organization and its members (Denison, 1990). Successful organizations have a clear sense of purpose and direction that defines organizational goals and strategic objectives and expresses a vision of how the organization will look in the future (Hamel & Prahalad, 1994). When an organization’s underlying mission changes, changes also occur in other aspects of the organization’s culture.
2.5 EMPIRICAL LITERATURE

2.5.1 Employee Involvement

Employee involvement in decision making, sometimes referred to as participative decision-making (PDM) is concerned with shared decision making in the work situation. According to Noah (2008), Employee involvement is a special form of delegation in which the subordinate gain greater control, greater freedom of choice with respect to bridging the communication gap between the management and the workers. It refers to the degree of employee’s involvement in a firm’s strategic planning activities. Employee participation in the planning process surrounding the potential innovations may facilitate opportunity recognition throughout the organization (Zivkovic et al., 2009). The attitudes that organizational results come from the top, that effective cultures are derived from the upper echelon, often tend to ignore the power and the contributions of those at lower levels.

There is growing evidence that firm performance rests increasingly on the involvement of workers in decision making (Spreitzer and Mishra, 1997). Scholars have argued that employee involvement contributes to organizational efficiency because it has the capacity to enhance the quality of decision making by increasing the inputs and promotes commitment to the outcomes of the decision making process in the workplace (Markey, 2006). According to Spreitzer et al. (1999), workers who have greater choice concerning how to do their own work have been found to have high job satisfaction and consequently high performance.
A significant relationship between frequency of employee’s consultation and organization commitment has also been established (Noah, 2008). While employee involvement may reside at the core of many contemporary practices and research, the extent to which organizational level performance gains are actually achieved through decentralizing decision making authority to lower level employee remains unclear (Richardson et al., 2002). Worker participation shows that each worker is a different person, not just a component in a mechanism, and every worker is concerned in serving the business to get together its objective.

2.5.2 Organizational Values and Norms

Kenny (1994) argued that just like every human community has its own value system, every organization has its own value system. Organizational values are intended to inspire employees with creative energy that will push organization forward towards desired goals. Cingula (1992) sees organizational values as what people within organization think is good for organization, what needs to happen within organization and what might be needed within organizations.

Organizations use organizational values to inspire their employees as well as their costumers. Organizational values are often discussed to be a powerful marketing tool, since clear organizational values are positively noted and they encourage potential buyers to buy or use company’s product. It has been established by several authors that organizational values influence organizational structure (Kabanoff et al. 1995), organizational identity, organizational strategy (Bansal, 2003) thus shaping organizational goals and means to achieve those goals.
Pearlberg & Perry (2007) conducted an empirical study on the implementation of a new performance management system in a U.S. Department of Defense Installation and revealed that values were motivating to employees. A considerable consensus exists on the Value Survey Model (VSM) developed by Hofstede as a framework for understanding values (Cohen, 2007) and more convincing results on Culture studies have been produced from its application. For instance, Cohen (2007) applied the Dorfman and Howell’s cultural dimensions scale adapted from Hofstede’s model in a survey design and examined the relationship between personal cultural values (individualism-collectivism, power distance, uncertainty avoidance, and masculinity-femininity) and organizational citizenship behavior as well as performance of teachers of five cultural groups (secular Jews, orthodox Jews, Kibhutz, Druge, and Arabs) in Israel. He found that both membership in cultural group and cultural values were substantially associated with performance. Cohen (2008) further examined the relationship between individual values, social justice variables as well as commitment dimensions and In-role performance and organizational citizenship behavior and found that individual values were related to three of the behavioral outcomes, over and above the effect of the social exchange variables.

Berkhout and Rowlands (2007) researched on personal and organizational values among employees of organizations that specialize in alternative energy sources (solar electricity, wind electricity, smaller hydro-electrical plants), and found out that those organizations that focus their selection procedure on matching personal values with organizational values tend to be significantly more successful in their
work because of the fact that employees have a higher level of job satisfaction. Kaye and Jordan-Evans (2009) have even determined that some individuals even perceive the importance of a good match between organizational and personal values to be more important than the income they earn. This clearly shows that people have started to value more how they feel in the organization then how much they are paid. Norms reflect what is considered to be not, what is undesirable behavior. Such norms may exist, for example, with regard to what one is expected to wear, or what actions workers are expected to take for their professional development (Gonder and Hymes, 1994; Stolp and Smith, 1995).

2.5.3 Artifacts

Artifacts comprise the physical components of the organization that relay’s cultural meaning. Denison (1990) describes artifacts as the tangible aspects of culture shared by members of an organization. The third level in Schein’s classification scheme consists of artifacts and practices. Cultural artifacts include symbols, heroes and myths, from behavioral patterns. A similar classification of distinct cultural layers was advocated by Van Hoewijk (1991). Within these cultural artifacts, the basic assumptions, values and behavioral norms of a corporation are visualized.

Myths articulate past events which have been important for members of an organization(Deal, 1999). These ‘critical’ events are rendered in stories that are frequently recalled. Myths are often centered on actions or decisions taken by the
heroes or heroines of institutions. These people represent certain individual characteristics that reflect what members of the company value and serve as role models for the workers. (Gonder and Hymes, 1994).

Another artifact pertains to symbols that exist in an organization. These indicate what meaning workers ascribe to various functions, parts or processes within the company (Deal, 1995). Customs refer to ‘the way we do things around here’, which is often characteristic for the group of workers within the company. Customs are culturally charged. Sometimes it is still possible to ‘recognize’ the beliefs or assumptions that led to the commonly accepted behavior in these customs. More often, however, these customs are so worn that they can only be interpreted in terms of shared assumptions, values and norms with great difficulty. Procedures, on the other hand, can often be interpreted more easily. These procedures are less relevant from a cultural point of view. Procedures reflect which actions have proven to be valuable for the organization in the past and, therefore, have become institutionalized. From these procedures it can often easily be derived what is considered to be a good approach.

2.6 Effects of Corporate Culture on Performance

An empirical study that provides strong support for the relationship between culture and corporate performance was carried out by Cameron and Freeman (Jackson, 2008). The authors tested organization effectiveness and culture type in 334 US Colleges and Universities and found that higher effectiveness was associated with adhocracy culture. According to Jaakson (2008), this culture is
largely based on the values of entrepreneurship, flexibility, creative experimentation, risk and external positioning.

Culture is not just an important factor of an organization but it is the central driver of superior business performance. This view is supported by Gallager and Brown (2007) in their article entitled “Strong market Culture drives Organizational Performance and Success” when they stated that a company’s cultures influences everything such a company does. They also stated that between 1990 and 2007 more than 60 research studies covering 71619 companies and small business units in 26 countries found out that market culture and business performance are strongly related. According to Wang and Abdul-Rahman, (2010). Culture determines the way corporations and individual work. Strong culture organizations with participative principles results to higher return on investment as compared to those without.

Open communication as well as participatory leadership is positively related with the employee performance regarding both roles. Performance level of any organization is increased when that organization has well-managed, well-defined and strong culture (Heck and Marcoulides, 1993). Researchers have agreed that level of well managed and strong culture is related to level of performance of an organization (Emmanuel and Lloyd, 2000). The link between organizational culture and organizational performance is like cause-effect relationship meaning that organizational performance has an effect of organizational culture (Heck and Marcoulides, 1993). Past evidences show that if organizational managers allocate
much of their time, resources and quality of their work toward organizational culture then they can earn higher level of productivity (Heck & Marcoulides, 1993). Organizational success or failure can be predicted by observing its culture because well-managed culture causes the success of organizations (Oparanma, 2010).

2.7 Research Gap
The literature review has shown that many researchers focused their research on the effect of corporate culture on performance of private business organizations with very few focusing on public water companies. There has been very little concentration on water companies especially in Machakos and Makueni counties. Thus this prompted the researchers’ interest in water and sewerage companies in Machakos and Makueni counties.

2.8 Conceptual Framework:
The purpose of the conceptual framework is to help the reader to quickly see the proposed relationship between the variables of the study. The conceptual framework links the various aspects listed as independent variable that impact on Performance as the dependent variable. This study conceptualized the elements of corporate culture as the independent variables and how they impact organizational performance. In conceptualizing, the researcher attempted to point out how Cultural traits of Employee involvement in planning meetings, budgeting processes, Annual review meetings, development of operational schedules and
regular and participatory staff meetings: Norms and values which include, vision, mission and values of the organization, adherence to the company policies and procedures, organization's service charter clearly written and focused on improving service delivery, conduct of staff at the front of office, Managers consistency and fairness in administering work policies and prompt communication of bills to consumers. and artifacts which include: Identification badges and Technology Impact organizational performance in terms of Revenue collection efficiency, Un accounted For Water (UFW), Water coverage.
Employee Involvement in:
- Decision making
- Planning meetings
- Budgeting meetings
- Annual review meetings
- Development of operational schedules

Norms and Values
- Clear, focused and easily conceptualized vision, mission and values of the organization
- adherence to the company policies and procedures organization's service charter is clearly written and focused on improving service delivery
- Conduct of staff at the front of office
- Managers consistency and fairness in administering work policies
- prompt communication of bills to consumers

Performance
- Revenue collection efficiency
- Un accounted For Water
- Water coverage

Artifacts
- Identification Badges
- Embracing modern Technology in communication
- Use of modern technology to pay bills

Independent Variables \[\rightarrow\] Dependent Variable

**Figure 2.1: Conceptual Framework**

Source: Author, 2015
CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research Design

Research design refers to the blueprint for collection, measurement and analysis of data. It is the plan and structure of investigating so as to obtain answers to research questions (Kothari, 2004). It provides the glue that holds the research project together. A design was used in this study to outline the structure which shows the major parts of the research, the samples or groups, measures, treatments or programs, and methods of assignment, work together to try to address the central research questions (Trochim, 2006).

Descriptive design was used in this study since the researcher intended to look at the research problem, to define it, clarify it, and obtain pertinent information that could be of use by policy makers. According to Babbie (2011), descriptive study is concerned with finding out who, what, where and how of the variables, which was the main focus of the study. The respondents who included employees of the four selected W&SCs were expected to describe cultural factors that affect corporate performance.

3.2 Population

Population has been defined by Mugenda and Mugenda (2003) as an entire group of individuals, events or objects having observable characteristics. According to Cooper and Schindler (2000), a population is the total collection of elements about
which we wish to make inferences. In other words, a population is an aggregate of all that conforms to a given specification. The population for this study was drawn from employees of four selected W&SCs within Machakos and Makueni counties. These W&SCs included: Machakos, Mavoko, Makindu and Wote water and sewerage companies. A total number of 188 people (table 3.1) were targeted for this research.

Table 3.1 The Target Population

<table>
<thead>
<tr>
<th>Categories</th>
<th>MAVW&amp;SC</th>
<th>MACW&amp;SC</th>
<th>WOW&amp;SC</th>
<th>WOW&amp;SC</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top Level Managers</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Medium Level Managers</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>Artisans</td>
<td>28</td>
<td>30</td>
<td>23</td>
<td>12</td>
<td>93</td>
</tr>
<tr>
<td>Subordinates</td>
<td>30</td>
<td>18</td>
<td>18</td>
<td>11</td>
<td>77</td>
</tr>
<tr>
<td>Total</td>
<td>63</td>
<td>53</td>
<td>46</td>
<td>26</td>
<td>188</td>
</tr>
</tbody>
</table>

3.3 Sample and Sampling Design

Stratified random sampling technique was used to select the sample population. The population of 188 was listed in four mutually exclusive strata comprising top level managers, medium level managers, artisans and Subordinates. The sample size and the appropriate representation in each stratum were subsequently determined. Random numbers were used to select an appropriate number of subjects from each stratum. According to Coopers and Schindler (2000) stratified sampling increases statistical efficiency on a sample, provides adequate data for
analyzing the various sub-population and enables different research methods and procedures to be used in different strata.

3.4 Sample Size

The sample size was 136 respondents out of a target population of 188. These were selected to ensure that the sampling size had characteristic representation of the population using the formulae developed by Mugenda and Mugenda (2003). The formula to find the sample size is:

\[
n = \frac{N}{1 + (N \times e^2)}
\]

Where;

N = population size

e = Tolerance at desired level of confidence, take 0.05 at 95% confidence level

n = sample size. How the formula is used is shown below

\[
n = \frac{188}{1 + (188 \times 0.05 \times 0.05)}
\]

n = 127.891

Thus the sample size,

n = 128

The distribution of the sample across the categories was done using the formula:-

Number of individuals in the category x the sample size

Total number of employees
Table 3. 2: Sample Size

<table>
<thead>
<tr>
<th>Categories</th>
<th>MAV W&amp;S C</th>
<th>MACW &amp;SC</th>
<th>WO W&amp; SC</th>
<th>WOW &amp; SC</th>
<th>Population</th>
<th>Sample</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top Level Managers</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>100</td>
</tr>
<tr>
<td>Medium Level Managers</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>14</td>
<td>11</td>
<td>78</td>
</tr>
<tr>
<td>Artisans</td>
<td>20</td>
<td>21</td>
<td>16</td>
<td>9</td>
<td>93</td>
<td>66</td>
<td>72</td>
</tr>
<tr>
<td>Subordinates</td>
<td>21</td>
<td>13</td>
<td>13</td>
<td>8</td>
<td>77</td>
<td>55</td>
<td>71</td>
</tr>
<tr>
<td>Total</td>
<td>45</td>
<td>38</td>
<td>33</td>
<td>20</td>
<td>188</td>
<td>136</td>
<td>72</td>
</tr>
</tbody>
</table>

3.5 Data Collection Tools and Instruments

Primary and secondary sources were used to obtain information for the study.

3.5.1 Primary Data

Primary data was collected between November and December 2014 using a structured questionnaire and interview techniques. A structured questionnaire and interview techniques were employed to collect primary data for this study. The questionnaire comprised both open ended questions and Likert response options. Specifically the questionnaire probed, the nature of involvement of employees in the management of the selected water companies. Additional questions probed the effect norms and values as well the effect of utilization and display of artifacts by employees on performance of these companies. The questionnaire was administered to 136 employees drawn from different cadres in the companies. Lastly in-depth interviews were conducted to gain additional insights into the
effect of adopting a participatory approach in company affairs on performance of W&SC.

3.5.2 Secondary Data
Secondary data was collected from annual company reports and other documents stored in the resource sections in the selected W&SC. Additional information was sourced from existing materials such as, organizational reports, journals, and other empirical researches in the area and any other relevant document in libraries. Of particular importance to this study were three indicators of performance namely (i) water coverage - the total percentage of the population that has access to improved water, (ii) non revenue water - the water that is produced and lost before it reaches the consumer and (iii) revenue collection efficiency -the percentage of collected billed revenue.

3.5.1 Pilot Study
A pilot study was conducted in order to refine the research instruments. At this stage 10 questionnaires were administered to employees of Machakos Water and sewerage Company.

3.6 Data Analysis Procedures
The collected data was thoroughly examined and checked for completeness and comprehensibility. Descriptive statistics especially, frequencies, mean, percentages and cross tabulation were applied to help establish patterns, trends and relationships, and to make it easier for the researcher to understand and interpret
implications of the study. Correlation analysis was used to determine the relationship between the variables was also be used. The SPSS data analysis programme was used for data analysis.

Formula for Correlation analysis.

\[
r = \frac{N \sum xy - (\sum x)(\sum y)}{\sqrt{[N \sum x^2 - (\sum x)^2][N \sum y^2 - (\sum y)^2]}}
\]

Where

- \( N \) = number of pairs of score
- \( X \) = the independent variable
- \( Y \) = dependent variable
CHAPTER FOUR
RESEARCH FINDINGS AND DISCUSSION

4.1 Introduction

The overall goal of this study was to find out the effect of corporate culture on the performance of public water companies. The results of the analysis and a discussion of the study findings are presented in this chapter. Specifically, the presentation attempted to address the three objectives of this study, namely: (i) To investigate the effect of employee involvement on performance of Public water companies; (ii) To establish the effect of organizational norms and values on performance of Public water companies and (iii) to establish whether organizational artifacts can influence performance of Public water companies.

4.1.1 Personal Attributes of the Respondents

In this section, the personal attributes of the respondents such age, gender, educational level and work experience are explained.

4.1.2 Age of the Respondents

Age is a critical determinant of performance. Usually young and middle level people are considered knowledgeable, receptive, energetic and vibrant compared to the aged people. In most companies the norm is usually an enormous representation of young and middle aged workers while the aged and very young form the minority. The findings of this study confirmed this general perception since most of the respondents belonged to 31-40 years (38%) age group followed
by the age group 20-30 years constituting 29% (Table 4.1). These age brackets having the highest population are considered more useful to the organization since most of the work in the water companies require the young and energetic. Those in the age bracket of over 40-50 years constitutes the lowest population (16%). Unlike the norm in most cases, those aged over 50 were fairly represented in the selected W&SC which can be attributed to the effects of the reforms in the water sector (Water Act 2002) which led to the formation of the water service providers hence recruitment of new staff with an emphasis on the seemingly more experienced ones.

**Table 4.1 Age of the respondents**

<table>
<thead>
<tr>
<th>Age category (Years)</th>
<th>Frequency (n)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-30</td>
<td>31</td>
<td>29</td>
</tr>
<tr>
<td>31-40</td>
<td>40</td>
<td>37</td>
</tr>
<tr>
<td>41-50</td>
<td>17</td>
<td>16</td>
</tr>
<tr>
<td>&gt;50</td>
<td>20</td>
<td>18</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>108</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

**4.1.3 Gender**

Although men and women may contribute differently towards the performance of organizations at different stages, gender of the respondents was considered to be a crucial component of the study as it is linked to individual performance. The findings revealed that majority of the respondents (64.80%) were male while the female represents 35.29% (Figure 4.1). The gender representation indicates a fair compliance with the Kenya constitutional requirements that public institutions
exercise adherence to not more than two thirds of one gender in employment and distribution of staff.

Figure 4.1: Gender characteristics

A balanced gender representation has been found to have a positive effect on performance since more heterogeneous groups have different points of view and knowledge and consider a more comprehensive set of solutions. They debate each others’ viewpoints more vigorously, leading to higher quality decisions hence better performance of the firm.

4.1.4 Education Level of the Respondents

Education levels of the workers were considered in the study since a more educated society is perceived to translate into higher rates of innovation, higher overall productivity through firms’ ability to introduce new and better production methods, and faster introduction and adoption of new technology. This being the case, the study findings revealed that a fairly large number of the employees in the sample W&SCs possessed high education credentials. Most of the respondents
(41.76 %) had tertiary level of education (diploma). But contrary to our expectation only a small number of the employees (14%) had achieved university education (Figure 4.2). The later category of staff occupied top most positions in the companies which is a clear indication that they were qualified enough for the responsibility required in that capacity. It is possible that this scenario has to do with the academic qualifications required for appointments to majority of the positions in water companies. Like any other employers, the W&SCs expect their employees to be well qualified for the jobs they hold.

![Figure 4.2 Education levels of the respondents](image-url)

*Figure 4.2 Education levels of the respondents*
4.1.5 Work Experience of the Respondents

Work experience was another personal attribute that was investigated. There is a general held view that experience impacts on performance positively. A person with a wide experience is more skilled and likely to perform effectively than one who is newly employed. From the data collected, majority of the respondents (51%) (figure 4.3), had 6-10 years work experience which is an indication of low employee turnover and can be interpreted to imply that the workers are contented with their work and its conditions therefore are willing to stay for long.

![Figure 4.3 Work experiences of the respondents](image)

**Figure 4.3 Work experiences of the respondents**
The interviewed managers concurred with this analogy arguing that high worker retention is advantageous to the employer. This is because retaining the experienced employee in organizations avoids disruption in productivity and the cost of recruiting and training another employee. The loss of an experienced employee means a certain loss of knowledge about how the company works. On the other hand recruitment of new employees could be looked at positively. New employees especially if recruited transparently and following the required criteria, could bring in a wealth of experience which if harnessed can benefit the new employer. This will be true if work experience was a major factor of consideration when recruiting.

4.2 EMPIRICAL STUDY FINDINGS

4.2.1 Rating the Performance of the Water and Sewerage Companies

Corporate performance can be defined as the ability of an organization to accomplish its goals effectively and efficiently using resources (Stannack, 1996). Effectiveness implies to the degree by which goals set by the authorities are reached, concerning coverage and quality of services. Efficiency refers to reaching the same goals but with minimum costs.

This Study evaluated the performance of the selected four W&SCs based on three key performance indicators. These included: - water coverage, non revenue water and revenue collection efficiency which are very important in the performance of the companies. Essentially, water coverage means the total percentage of the population that has access to improved water, non revenue water means the water
that is produced and lost before it reaches the consumer and revenue collection efficiency is the percentage of collected billed revenue.

The study findings indicated that Mavoko Water and Sewerage Company performed much better than the other companies. This is because; about 60% of the residents in Athi River Town and its surrounding areas which is covered by Mavoko Water and Sewerage Company were served with piped water. Wote Water and Sewerage Company served the lowest number of people (22%) (Table 4.2 and 4.3). This finding compares well with the ranking of water companies by WASREB in 2013 during which Mavoko water and sewerage companies was ranked Number 11 (nationally) and the leading among the four companies that were included in this study (Table 4.2).

Interestingly Machakos water and Sewerage Company which was ranked number four in the present study was ranked number 55 in the WASREB survey thus making it last among the companies in the study. These results can be interpreted to mean that Mavoko Water and Sewerage Company had the widest water coverage, minimal non revenue water and a fairly good revenue collection compared to the other sampled water and sewerage companies. In the overall, however, the performance of the sample companies is not satisfactory. A lot needs to be done to improve the performance to over 80%.
Following is a scrutiny of each one of the parameters that were used to measure performance of the water and sewerage companies

### Water Coverage

Water coverage refers to the number of people served by the water service provider expressed as a percentage of the total population within the service area. It shows performance in executing the core mandate of the water and sewerage company which is connecting residents to clean piped water.
Table 4.3 Water Coverage

<table>
<thead>
<tr>
<th></th>
<th>MAVW&amp;SC</th>
<th>MACW&amp;SC</th>
<th>WOW&amp;SC</th>
<th>MAKIW&amp;SC</th>
</tr>
</thead>
<tbody>
<tr>
<td>The total population within the area of operation</td>
<td>350,000</td>
<td>192000</td>
<td>64033</td>
<td>52752</td>
</tr>
<tr>
<td>Total population served with water</td>
<td>210000</td>
<td>76800</td>
<td>14000</td>
<td>12748</td>
</tr>
<tr>
<td>Population not served with water</td>
<td>140,000</td>
<td>115,200</td>
<td>50,033</td>
<td>40,004</td>
</tr>
<tr>
<td>percentage of population served with water</td>
<td>60%</td>
<td>40%</td>
<td>22%</td>
<td>24%</td>
</tr>
</tbody>
</table>

Source: Managing Directors records

Findings of this study show that Mavoko water and Sewerage had the highest number of people served with piped water (60%) while Wote water and sewerage had the lowest number of people served with piped water (21.87%) (Table 4.2). The performance of Mavoko Water and Sewerage Company on water coverage is more than the overall national performance of water companies which stood at 53% in the year 2013. Although 60% may seem high, the fact that 40% of the population are without piped water is not good enough since it is far from achieving MDGs millennium development goal of 80% coverage of all the companies by the year 2015. The performance of Mavoko Water and Sewerage Company on water coverage is more than the overall national performance of water companies which stood at 53% in the year 2013. Nevertheless, Mavoko
Water and Sewerage Company is yet to attain the millennium development goal of 80% coverage by the year 2015.

**Non Revenue Water**

Non revenue water refers to the percentage difference between the amount of water produced for distribution and the amount of water billed to customers. It reflects the efficiency of the water service provider in delivering water produced to the consumers. It captures the extent to which a company has maintained water meters, reduced illegal connections, and metering errors; negligence by staff (Figure 4.5 and 4.6) and controlled unbilled authorized consumption. Findings of this study revealed that Machakos Water and Sewerage Company had the highest percentage of non revenue water (46%) while Wote Water and Sewerage Company had the lowest (20%) (Table 4.4).

**Table 4.4 Non-revenue Water**

<table>
<thead>
<tr>
<th></th>
<th>MAVW&amp;SC</th>
<th>MACW&amp;SC</th>
<th>WOW&amp;SC</th>
<th>MAKIW&amp;SC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of water produced</td>
<td>942857</td>
<td>1108160</td>
<td>72000</td>
<td>138,000</td>
</tr>
<tr>
<td>Amount of water sold</td>
<td>622285</td>
<td>596596</td>
<td>56886</td>
<td>106,000</td>
</tr>
<tr>
<td>Water loss/ non revenue water</td>
<td>320572</td>
<td>511564</td>
<td>15114</td>
<td>32000</td>
</tr>
<tr>
<td>percentage of non revenue water</td>
<td>34</td>
<td>46</td>
<td>20</td>
<td>23</td>
</tr>
</tbody>
</table>

Source: Managing Directors Records
Figure 4.4 pool of water caused by leaking pipe. Figure 4.5 leaking pipe.

High rate of non revenue water is detrimental to the financial viability of water companies as well as the quality of the water itself. The cause of the high rate of non-accounted for water was mainly found to be due to leakages of parts of the systems, overflows at the company’s reservoirs and also due to meter under-registration and data handling errors. Interviews with the senior officials revealed that some of the water pipes were installed over 50 years ago, are rusted and always leaking. Non revenue water is a major concern to the water companies as well as the residents of the affected areas since it signifies water loss in areas that are already experiencing water shortage. ‘Every drop counts’.

**Revenue Collection Efficiency**

Revenue Collection efficiency is an indicator on the commitment of the management in optimizing the Water Service provider’s revenue inflows and a reflection of customers’ willingness to pay and by extension their satisfaction with the service provided. Revenue collection efficiency is the total amount collected
by the water service provider expressed as a percentage of the total amount billed in a given period of time. It reflects the effectiveness of the revenue management system of the water service provider. Revenue collection is the integrity of the metered Service Delivery and Billing. The findings of this study indicate that, of the four water and sewerage companies, Makindu-Kibwezi Water and Sewerage Company had the lowest default rate (3%) while Machakos Water and Sewerage Company had the highest (24%) (Table 4.5). The implication is that about 24% of revenue in Machakos Water and Sewerage Company was not collected in the year 2013-2014 which translates to a heavy financial loss.

Table 4.5 Revenue Collection Efficiency Year 2013-2014

<table>
<thead>
<tr>
<th></th>
<th>MAVW&amp;SC</th>
<th>MACW&amp;SC</th>
<th>WOW&amp;SC</th>
<th>MAKIW&amp;SC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount Billed (KSHS)</td>
<td>132,000,000</td>
<td>95901520</td>
<td>6,825,600</td>
<td>33,920,000</td>
</tr>
<tr>
<td>Amount Collected (KSHS)</td>
<td>118,800,000</td>
<td>71,926,140</td>
<td>5,217,072</td>
<td>32,920,000</td>
</tr>
<tr>
<td>Default (KSHS)</td>
<td>1,320,000</td>
<td>23,975,350</td>
<td>1,607,528</td>
<td>1,000,000</td>
</tr>
<tr>
<td>Percentage of Default</td>
<td>10%</td>
<td>24</td>
<td>23%</td>
<td>3%</td>
</tr>
</tbody>
</table>

Source: Audited accounts

The research findings concurs with findings by WASREB 2014 that poor billing and poor meter reading in addition to failure to deliver bills in a timely fashion and collect payments promptly, most of the water companies in Kenya are experiencing major losses and thus becoming increasingly dependent on
intergovernmental funding to balance their budgets. Revenue collection is increasingly becoming frustrating that some companies are threatening to forward the names of defaulters to the Credit Revenue Bureau. The most basic point about the importance of revenue is that without it, a company cannot earn a profit and stay viable in the long run. An organization needs to collect revenue to justify the fixed and variable expenses it pays just to operate a business. In simplest terms, zero or low revenue leads to an unprofitable business and negative financial results.

The data collected concurs with World Bank (2004) report which indicated that in Kenya, like in most of sub-Saharan Africa, water utilities continue to operate inefficiently, are characterized by high water losses, insufficient revenues to cover operating costs, dilapidated and poor functioning infrastructure, lack of investments, low billing and collection efficiency, chronic water shortages and failure to meet the existing demand, low coverage, and corruption.

On average of the four W&SCs like other Water Service Providers in Kenya operate in conditions which limit their ability to maximize revenues because of inadequate infrastructure coverage and dilapidated infrastructure that predisposes them to lose 36% of the water produced.(Table 4.2) The implication is that they are not providing adequate water services to satisfy their clients. The operations of these companies are affected by an array of operating costs that include high
electricity bills, staff costs, inefficient metering and billing and an obligation to subsidize water costs to the poor customers.

### 4.2.2 Effect of Employee Involvement on Performance of Public Water Companies

Employee involvement in company affairs is a philosophy practiced by companies that give their employees stake in decisions that directly affect their jobs. The main benefits of employee involvement and empowerment are enhanced morale, improved productivity, healthier co-worker relationships and creative thinking. Involving employees empowers them to contribute to the success of an organization, saves the company time and money in increased productivity and reduced outsourcing. When employees are involved in company affairs, they gain a professional and personal stake in the organization and its overall success.

Employee involvement in company affairs gives the workers a sense of belonging, sense of ownership and enhances their personal and group motivation. Their commitment is enhanced and leads to increased productivity as employees are actively participating in various aspects of the company and wish to see their efforts succeed. The results of the Pearson correlation analysis revealed a strong positive relationship \((r = 0.64)\) between employee involvement in the management of company activities and their performance. This means that employee involvement provides for increased revenue collection, reduction in non revenue water and water coverage (Appendix 5).
The effects of employees involvement in decision making on corporate performance was measured using five items, namely:-

(i) Employee involvement in planning meetings,
(ii) Employee involvement in budgeting processes,
(iii) Employee participation in annual review meetings,
(iv) Employee involvement in development of operational schedules,
(v) Regular and participatory staff meetings. (table 4.6)

A three point likert response scale representing strongly agree, agree and strongly disagree was used. For the purpose of this study, above 80% was considered extraordinary high involvement, 61-80% high involvement, 51-60% average and below 50% low involvement (Table 4.6 and 4.7). When employees are involved in company affairs, they gain a professional and personal stake in the organization and its overall success. Employee involvement in company affairs gives the workers a sense of belonging, sense of ownership and enhances their personal and group motivation to work towards attainment of the organizations goals. This commitment leads to increased productivity as employees are actively participating in various aspects of the company and wish to see their efforts succeed. Before collecting data, four categories of involvement were envisaged.
Table 4.6 Categories of involvement

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Involvement level</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) 80% +</td>
<td>extraordinary high level of involvement</td>
</tr>
<tr>
<td>(ii) 61-80%</td>
<td>high level of involvement level,</td>
</tr>
<tr>
<td>(iii) 51-60%</td>
<td>Fair level of involvement</td>
</tr>
<tr>
<td>(iv) Below 50%</td>
<td>Low</td>
</tr>
</tbody>
</table>

TABLE 4.7 Employee Involvement in Performance of Water Companies

<table>
<thead>
<tr>
<th>ASSESSMENT OF INVOLVEMENT LEVEL (%)</th>
<th>MACW&amp; SC</th>
<th>MAKIW&amp;SC</th>
<th>MAVW&amp; SC</th>
<th>WOW &amp;SC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees are involved in planning meetings</td>
<td>67</td>
<td>62</td>
<td>51</td>
<td>39</td>
</tr>
<tr>
<td>All employees are actively involved in budgeting processes</td>
<td>8</td>
<td>69</td>
<td>68</td>
<td>44</td>
</tr>
<tr>
<td>Employees are motivated to work more to attain the planned milestones by the company</td>
<td>14</td>
<td>92</td>
<td>59</td>
<td>28</td>
</tr>
<tr>
<td>Employees participate in annual review meetings</td>
<td>17</td>
<td>77</td>
<td>66</td>
<td>35</td>
</tr>
<tr>
<td>Employees are involved in</td>
<td>31</td>
<td>69</td>
<td>68</td>
<td>50</td>
</tr>
</tbody>
</table>
development of operational
schedules
Employees are given
satisfactory and appropriate
feedback on their job

<table>
<thead>
<tr>
<th></th>
<th>28</th>
<th>82</th>
<th>75</th>
<th>56</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff meetings</td>
<td>19</td>
<td>62</td>
<td>76</td>
<td>44</td>
</tr>
<tr>
<td>and participatory</td>
<td>184</td>
<td>513</td>
<td>463</td>
<td>296</td>
</tr>
<tr>
<td>Total</td>
<td>26</td>
<td>73</td>
<td>66</td>
<td>42</td>
</tr>
</tbody>
</table>

**Employee’s Involvement in Planning Meetings**

Involving employees in corporate and/or departmental planning is one of those sought after practices that can generate increased profits and improved employee satisfaction at virtually no cost to an organization (Spreitzer and Mishra, 1997). This is because involving employees in departmental meetings creates a sense of ownership in the company, and instills a sense of pride and motivates employees to increase productivity in order to achieve their goals. Findings of this study showed that Machakos Water and Sewerage Company had the highest number of employees (67%) who agreed that a high employee involvement in departmental meetings during which important company decisions were made is critical to the success of the company. It is worth noting that, although Machakos Water and Sewerage Company recorded the highest agreement level on employee involvement than the other companies, it recorded a low performance than the
other companies which can be attributed to lack of employee contribution in the meetings. Makindu Water and Sewerage Company had the highest number of employees (44%) who strongly disagreed that employee involvement in decision making process was important and not likely to bring a meaningful change. (Appendix 2)

Employees who participate in the decisions of the company feel like they are a part of a team with a common goal, and find their sense of self-esteem and creative fulfillment heightened. Several benefits accrue to the organizations that encourage involvement of employees in the decision making process. The most notable benefits include: generation of new ideas to increase revenue and reduce expenses, improve trust in management and improved employee perceptions of managerial leadership skills.

**Employee Involvement in Budgeting Processes**

Almost every enterprise, regardless of size, complexity or sector, relies heavily on budgets and budgetary systems to achieve strategic goals. The process of budgeting involves setting strategic goals and objectives and developing forecasts for revenues, costs, production, cash flows and other important factors.

The finding of this study showed that majority of employees from Makindu-Kibwezi Water and Sewerage Company (69%) agreed that employees were actively involved in budgeting process (Table 4.7) while majority of employees from Machakos Water Company (92%) strongly disagreed (Appendix 2). The latter observed that budgeting is finance and accounting department’s affair. The
former felt that by being involved in the budgeting process is the responsibility of all the stakeholders in the organization. This is a clear indication that the management of Machakos Water and Sewerage Company did not recognize the importance of employee involvement in the Budgeting process hence performing poorly.

Mavoko and Makindu Kibwezi water and Sewerage Companies have better performance than the other two water companies (table 4.2) due to employee involvement in the Budgeting process. Participatory budgeting motivates employees, increases their performance, their satisfaction and helps the entity to obtain more realistic budgets. Subordinates know better than their superiors the activities that they perform, their implications and what resources they need in order to achieve the stated objectives (Parker and Kyj, 2006).

The findings are in line with Robinson’s (2007) observation that, the success and importance of budgeting relates to the identification of organizational goals, allocation of responsibilities for achieving these goals, and consequently its execution. All in all the findings revealed that very few employees from the four W&SCs strongly agreed they were involved in budgeting process by their employers. This implies that budgeting activities in water companies is done by top managers and the workers only implement the management decisions leading to poor performance in most of the companies in study.
Employee Participation in Annual Review Meetings

Annual review meetings involve tracking progress against performance goals and objectives and also provide the opportunity to recognize and reward employees for performance and exceptional effort, contributing to job satisfaction and productivity. Employees always want to feel successful, to do well at their job and feel they are making a valuable contribution. In order to ensure this happens, employees need to actively participate in annual review meetings.

The finding of this study shows that majority of respondents from Mavoko Water and Sewerage Company (77%) agreed with Likert response statement that employees participate in annual review meetings (Table 4.7) while Machakos Water and Sewerage Company recorded the highest percentage of employees who strongly disagreed (75%). (Appendix 2).

Employee Involvement in Development of Operational Schedules

Scheduling is the art of planning activities to achieve organizational goals and priorities in the available time. To organize and complete activities timely, an organization needs to schedule activities carefully. Effective scheduling plays a crucial role in ensuring organizations success. This notwithstanding finding of this study revealed that majority of respondents from Makindu-Kibwezi Water and Sewerage Company (77%) agreed that employees are involved in development of operational schedules while majority of Machakos Water and Sewerage Company workers strongly disagreed(61%).(Table 4.7).
To keep projects on track, organizations should involve employees in developing operations schedule which in return results in reduced costs and increased customer satisfaction. Employees are invited to share in the decision-making process of the firm by participating in activities such as setting goals, determining work schedules, and making suggestions. By allowing a diverse group of employees to have input into decisions, the organization benefits from the synergy that comes from a wider choice of options. When all employees, instead of just managers or executives, are given the opportunity to participate, the chances are that the outcome will be a valid and unique idea.

Regular and Participatory Staff Meetings

Regular and participatory staff meetings are essential for building and maintaining smooth running practices within an organization. Regular staff meetings help in improving collective performance, encouraging greater productivity and boosting profits, strengthening a sense of togetherness, corporate identity. The study findings indicated that Makindu-Kibwezi Water and Sewerage Company had the highest number of employees (82%) who agreed that staff meetings were not only held regularly but were participatory.

Unfortunately, Machakos Water and Sewerage Company which has severely performed dismally recorded the highest percentage of respondents who strongly disagreed (78%) (Appendix 2). This means that Staff meetings were not a regular feature in Machakos Water and Sewerage Company and also that the few that were held were not participatory. Non participatory meetings tend to use up-
bottom approaches, are dictatorial and authoritative. Ideas trickle down from the top for the workers to implement regardless of whether they like them or not. On the other hand, holding regularly scheduled staff meetings with employees in the workplace greatly enhances the communication efforts that make up the foundation of the work group.

Participatory meetings give workers opportunity to communicate with one another and to share ideas. This promotes employee participation as a means of improving company performance, particularly by changing employees' attitudes and improving the work environment. On average Makindu-Kibwezi Water and Sewerage Company recorded a high involvement level of 73% while Machakos Water and Sewerage Company had a low involvement level of 26% (Table 4.6). The study results also indicate that Makindu-Kibwezi Water and Sewerage Company which recorded high involvement level also had better performance.

4.2.3 Assessing the Effects of Artifacts on Performance

The study sought to establish the effects of artifacts on performance of public water and sewerage companies. To do this a Pearson Correlation analysis between use and display of artifacts and performance of the companies was conducted. Findings of this correlation analysis revealed an overwhelming strong positive relationship (r=0.90) between these two variables (Appendix 5). These results can be interpreted to mean that a company that embrace a culture of using and displaying artifacts will have a high and meaningful performance as measured in terms of increased revenue collection, reduction in non revenue water and
increased water coverage. The specific artifacts of interest to this study included identification badges, modern technology and communication and modern technology and water bills, (Table 4.8).

Table 4.8: Effects of Artifacts on Performance

<table>
<thead>
<tr>
<th>ASSESSMENT OF SATISFACTION LEVEL (%)</th>
<th>MACW &amp;SC</th>
<th>MAKIW &amp;SC</th>
<th>MAVW &amp;SC</th>
<th>WOW&amp;S C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees put on identification badge/always at work.</td>
<td>39</td>
<td>46</td>
<td></td>
<td>59</td>
</tr>
<tr>
<td>Our Organization embraces modern technology in communicating with clients</td>
<td>19</td>
<td>69</td>
<td></td>
<td>66</td>
</tr>
<tr>
<td>Customers use modern technology to pay bills</td>
<td>28</td>
<td>77</td>
<td>73</td>
<td>33</td>
</tr>
<tr>
<td>Total Percentages</td>
<td>86</td>
<td>192</td>
<td>198</td>
<td>122</td>
</tr>
<tr>
<td>Average</td>
<td>29</td>
<td>64</td>
<td>66</td>
<td>40</td>
</tr>
</tbody>
</table>

Employees’ Perception on Use of Official Identification Badges at Workplace

In the business world, customer satisfaction is important for success of any business and employee identification badges play a very important role. Badges are for ease of identification. This is important in view of the many complaints
emanating from persons pretending to be Water and Sewerage Company employees. In some instances, such fraudsters have collected money from customers which they did not remit to the Company. This problem is not unique to water and sewerage companies, it has forced KPLC to design a method of identifying and verifying their employee.

The study sought to find out the employees perception on the putting on of employee identification badges at the work place. The findings showed that 59% of the respondents in Mavoko Water and Sewerage Company agreed that staff should always wear identification badges at the work place while in Machakos only 39% agreed. Majority of the respondents in Machakos Water and Sewerage Company strongly disagreed (53%) (Appendix 3) that employees should put on identification badges at the work place. Badges help customers to authenticate the worker while other staff members identify the department the employee is working in or his/her designation.

**Embracing Modern Technology**

Technology refers to the use of tools, gadgets and resources that help us control and adapt to our environment. There is no doubt that technology has greatly influenced modern society and lifestyles. Technology has also helped small businesses evolve and expand quickly. Due to technology; businesses, small and large, can reach a wider customer base and grow and expand. Modern techniques that include computer system, Internet/electronic mail (e-mail), mobile phone, and
fax machine facilitate workers to perform their duties more efficiently minimizing possible errors that could occur during the process.

**Technology and Communication**

Embracing modern technology is known to have effect on performance of communication and essentially on the way business is done. Modern technology is important in businesses since it improves communication in the workplace, with clients and business partners because information can be passed through multiple channels almost instantly. The world is now a global village due to improved technology. The use of social networking, E billing (Phone and email), MPESA, video conferencing, virtual office tools and other such techniques have removed all boundaries, which in the past prevented growth. Utilization of such technologies is associated with efficiency because these tools allow for instantaneous communication. For example, over thirty million Kenyans own a mobile phone from which they can transact business. Today, e-banking and mobile phones have revolutionized the way of doing business saving time and lowering transaction costs. Water bills that are sent through e-mail or mobile phone are received almost immediately as opposed to those that are send through ordinary post office method. Use of MPESA for payment can be instantaneous as opposed to driving or walking to the water company or even a bank to make a payment.

The researcher sought to find out whether companies embrace modern technology in communicating to clients. The findings indicated that majority of employees from Mavoko Water and Sewerage Company (69 %) (Table 4.7) agreed that their
company use modern technology in communicating with clients and that there has been improved service delivery since the adoption of modern technology. Mavoko and Makindu-Kibwezi Water and Sewerage companies sent water bills to their clients via SMS and email and since they adopted this mode of communication, there has been improvement in efficiency which has impacted on the company performance especially on revenue collection. The number of defaulters has reduced remarkably.

**Technology and Revenue Collection**

A company's ability to innovate and effectively exploit information technology is crucial for survival in today's turbulent business environment. With opportunities and threats evolving faster than ever before, companies that can innovate quickly with technology are gaining a competitive edge. The findings of this study showed that employees in Mavoko and makindu-Kibwezi Water and Sewerage Companies acknowledged that it was necessary for companies to adopt and utilize modern technology recorded highest agreement level (78%) and (77%) respectively while Machakos recorded the lowest agreement level (16%) (Table 4.8). Machakos Water and Sewerage Company employees strongly disagreed (56%) that use of modern technology leads to improved revenue collection which can be linked with the slow phase on embracing modern technology by the company.

Embracing modern technology in revenue collection in Mavoko Water and Sewerage Company is mostly done through mobile phone whereby clients receive bills through SMS and e-mail every 14\textsuperscript{th} day of the month even without requesting.
Strengthening revenue collection by the water companies offers many potential benefits as it will reduce the dependency on external flows; it gives the companies greater policy space, increases their ownership of the development process as well as strengthening their income capacity.

On Average Mavoko Water and Sewerage Company recorded a high agreement level of 66% while Machakos had a low agreement level of 26% of the respondents (Table 4.8). The study results also indicate that Mavoko which recorded high involvement level also had above average performance.

4.2.4 The Effects of Norms and Values on Performance of Public Water Companies.

The extent of the effect of acceptance and utilization of organizational norms and values by employees on performance of Public water companies was investigated. Norms were defined as the attitudes and behavior of the members of an organization while values were taken to imply what employees considered important to the successful operation of their Company. To do this a Pearson Correlation analysis was undertaken. Its Results revealed, strong positive relationship \( r = 0.94 \) between utilization of norms and values on one hand and performance of the W&SC on the other (Appendix 5). This finding was taken to imply that companies whose employees accepted and utilized their company norms and values recorded a high performance as indicated by increased revenue collection, reduced non revenue water and increased water coverage.
Several aspects were considered in the study which includes: vision, mission and values of the organizations. These were assessed by investigating:

(i) The Clear, focused and easily conceptualized vision, mission and values of the organization

(ii) Employee adherence to the company policies and procedures

(iii) Whether the adherence to policies have reduced cases of uncounted for water, service hours and revenue collection efficiency

(iv) Organization's service charter is clearly written and focused on improving service delivery

(v) Conduct of staff at the front office.

(vi) Managers consistency and fairness in administering work policies

(vii) Bills are promptly communicated to consumers

(viii) The Effect on the deadlines for reading on revenue collection.

The study findings indicated that Makindu – Kibwezi and Mavoko water and sewerage companies recorded extraordinary high satisfaction level 81% and 82% respectively while Machakos recorded the lowest satisfaction level (43%) on the effect of norms and values on performance of water companies( Table 4.9).
Table 4.9. The effects of norms and values on performance of public water companies

<table>
<thead>
<tr>
<th>Norms and values statement</th>
<th>ASSESSMENT OF SATISFACTION LEVEL (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The vision, mission and values of this organization are very clear, focused and easily conceptualized</td>
<td>MACW &amp; SC 69 MAV &amp; SC 73 WOW &amp; SC 68</td>
</tr>
<tr>
<td>All employees adhere strictly to the companies policies and procedures</td>
<td>MACW &amp; SC 64 MAV &amp; SC 85 WOW &amp; SC 77</td>
</tr>
<tr>
<td>Adherence to policies have reduced cases of uncounted for water, service hours and revenue collection efficiency</td>
<td>MACW &amp; SC 39 MAV &amp; SC 85 WOW &amp; SC 56</td>
</tr>
<tr>
<td>Our organization's service charter is clearly written and focused on improving service delivery</td>
<td>MACW &amp; SC 28 MAV &amp; SC 81 WOW &amp; SC 66</td>
</tr>
<tr>
<td>The staff at the front of office record contacts of customers and filled for easy of accessibility</td>
<td>MACW &amp; SC 56 MAV &amp; SC 77 WOW &amp; SC 27</td>
</tr>
<tr>
<td>Managers are consistent and fair in administering work policies</td>
<td>MACW &amp; SC 42 MAV &amp; SC 78 WOW &amp; SC 39</td>
</tr>
</tbody>
</table>
The Vision, Mission and Values

In the rapidly evolving business climate, strategic planning is a fundamental necessity for gaining a competitive advantage in the market place. A strategic plan for a company is not complete without a mission vision and values statements which have a significant influence on the strategic direction of a company and should be considered throughout the planning process (MCN Aminara 2013). The study sought to find out respondent views on whether the vision, mission and values of the water and sewerage companies are clear, focused and easily conceptualized. The study findings indicated that, respondents from Mavoko water and Sewerage Company recorded the highest agreement level (75%), (Table 4.9), that the vision, mission and values of the organization were very clear, focused and easily conceptualized.
Adherence of Company’s Policies and Procedures by Employees.

The purpose of company policies and procedures is to set out the norms of behavior acceptable by employees and management of the company. The study sought to establish whether the employees adhered to the policies and procedures of the company they work with. The findings show that majority of respondents from the water companies adhered strictly to the company’s policies and procedure. (Table 4.9). Mavoko and Makindu-Kibwezi Water and Sewerage Companies recorded the highest agreement level (85%) while Machakos recorded the lowest agreement level (67%). Mavoko and Makindu – Kibwezi Water and Sewerage Company were found to be performing better than Machakos and Wote a fact which could be attributed to adherence to policies and procedures. Employees in Mavoko and Makindu-Kibwezi Water and Sewerage Company were not only involved in developing company policies but also inducted on company policies and procedures.

Policies and procedures are designed to influence and determine major decisions, actions and activities that take place in the business environment. Every company has its own rules that govern how employees are expected to behave and how managers are expected to respond to misbehavior. Securing employee adherence to work-place rules and company policies is one key antecedent of successful coordination and functioning within organizations. The responses received from the water Companies indicated that the respondents understand that employees
must adhere to company policies and procedures. Generally, service hours and revenue collection efficiency can be reduced by adherence to policies but reduced cases of unaccounted for water can be achieved by frequent line patrols and servicing of meters. The findings concurs with (Kotter & Heskett, 1992) findings that, organizations dedicated to continuous improvement, with visionary leaders who ‘walk their talk’ and focus on a set of core values, have been shown to be more financially successful in the long-term

Service Charter Clearly Written and Focused on Improving Service Delivery

A service charter is a framework on how businesses provide services to its customers in terms of excellence, payments, response time and overall standard. The findings shows that majority of respondents from Makindu-Kibwezi Water and Sewerage Company (85%) agreed that service charter is clearly written and focused on improving service delivery. Machakos Water and Sewerage Company recorded the highest percentage of disagreement level with 47% of workers strongly disagreeing that their company service charter was clearly written and focused on improving service delivery (Appendix 4). The service charter specifies the standards for service delivery a company believes that its stakeholders have a right to expect and set out a complaint handling and feedback mechanisms if things go wrong. Companies always have competing entities and the customer service charter is something that allows them to stand out over the competition.
Management Consistency and Fairness in Administering Work Policies

Consistent application of workplace policies is the responsibility of human resources, departmental supervisors and managers. The researcher sought to find out whether Managers were consistent and fair in administering work policies. Majority of respondents from Makindu- Kibwezi Water and Sewerage Company (85%) agreed that Managers are consistent and fair in administering work policies (Table 4.9). The consequences of applying workplace policies inconsistently in terms of race, tribe, education level, sex and religion can jeopardize business success. Supervisors and managers who selectively apply workplace policies risk loosing employees to substantial turnover based on low employee morale and overall dissatisfaction.

Bills are Promptly Communicated to Consumers

Timely Billing and collection of revenue are key elements of financial management and are central to managing a successful business. Finding of this study showed that majority of respondents from Makindu–Kibwezi and Mavoko Water and Sewerage Company recorded the highest agreement rate (85%) and 78% respectively (Table 4.9). These two water and sewerage companies have embraced modern technology and use SMS and Emails to communicate bills as explained in section 4.2.3. They also provide customers with a number to call in case on a delay. Failure to either bill or collect, or to do both, in a timely and efficient manner can have a negative if not drastic impact on the financial standing
of a company. Most business organizations often struggle to run the businesses effectively particularly in areas of pricing, billing and collections. The management and administrative staff of any organization must treat billing as an essential part of their role and complete it in a timely fashion. Water and sewerage companies should establish a billing method that recognizes the importance of the firm’s cash flow. This is usually accomplished by presenting bills as soon as the bills are prepared.

**Adherence Deadlines for Reading Meters Have Led to an Increase in Revenue Collection**

Revenue is the amount of money a company brings in or earns before any expenses are deducted. From an accounting perspective, revenue typically consists of product and service sales on account or where the customer paid in cash. Majority of respondents from Mavoko and Makindu–Kibwezi Water and Sewerage Companies were in agreement that deadlines for reading meter had led to increase in revenue collection by their company. The findings indicated that 90.2% of the employees in Mavoko Water and Sewerage Company were in agreement that deadlines in meter reading had led to increase in revenue collection( Table 4.9). This implies that all the Employees in Mavoko Water Company appreciated and adhered to the deadlines in meter reading. By meeting billing deadlines, ensuring the bills reach the clients timely, Mavoko and
Makindu-Kibwezi water and sewerage company enhanced revenue collection in the two companies.

On average Makindu-Kibwezi Water and Sewerage Company recorded a high agreement level of 82% responses while Machakos Water and Sewerage Company had a low agreement level of 41% (Table 4.8). The study results also indicate that Makindu-Kibwezi and Mavoko Water and Sewerage Company which recorded high involvement level also had above average performance. The study concurs with Mullane (2002) who pointed that mission and vision statements are useful for practical day-to-day operations of organizations. In order to achieve strategic objectives it is important for the business management to develop mission statements, vision statement and values that are clear focused and easily conceptualized. Vision, mission and values provide a vehicle for communicating an organization’s purpose and values to key stakeholders.

**Conclusion**

Culture has a vital and measurable impact on the organization’s ability to deliver on its strategy. An effective corporate culture aligns with the business strategy to ensure that the company meets its long-term goals, sustainability and economic performance. In this study corporate culture was measured using (i) employee involvement in management activities (ii) acceptance and utilizations of organizational norms and value; and utilization of company artifacts. Findings of
this study indicated a positive relationship between employee involvement in company activities and performance \( r = 0.64 \), artifacts and performance \( r = 0.90 \), and norms and values and performance \( r = 0.94 \). From an individual company basis, it can be concluded that Mavoko and Makindu-Kibwezi W&S Companies recorded a high performance. The outstanding performance indicated by a high level of water coverage, low level of non water revenue and fairly high level of revenue collection. This high performance was attributed to a strong corporate culture as evidenced by: a high level of employee involvement on company affairs, strong organizational norms and values and a strong belief and adherence on organizational artifacts.

Companies that did not perform well such as Machakos W&SC tended to be autocratic and less participatory. Employees in these companies did not adhere to their organizational norms and did not believe that it was important to do so. Lastly poor performance was common among companies that did not adhere to their organizational artifacts.
CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction
This study sought to establish the effect of corporate culture on performance of public water companies in Makueni and Machakos counties Kenya. Findings of the study confirmed that a positive corporate culture translates into a high performance of water and sewerage companies.

5.2 Summary of the Findings
The study findings indicated that Mavoko and Makindu-Kibwezi Water and Sewerage Companies performed much better than the other water companies. This was indicated by a high level of water coverage, low level of non water revenue and fairly high level of revenue collection. This high performance was attributed to: a high level of employee involvement on company affairs, strong organizational norms and values and a strong belief and adherence on organizational artifacts.

Companies that did not perform well such as Machakos Water and Sewerage Company tended to be autocratic and less participatory. Employees in these companies did not adhere to their organizational norms and did not believe that it was important to do so. Lastly poor performance was common among companies
that did not adhere to organizational artifacts. This study report also concurs with WASREB report (2014) where by Mavoko Water and Sewerage Company was ranked position 13 out of 64 while Machakos Water and Sewerage Company ranked among the poorest performing companies in position 55 out of 64 (Table 4.2).

According to the findings of the study employees valued being involved in company activities as opposed to being treated as outsiders. They preferred a bottom-up approach in the management of the company as opposed to top bottom approach. Companies which embraced a bottom-up approach performed much better than the others. Such companies respected and valued dialogue, allowed for participation in staff meeting, budgetary process, allowed employee participation in annual review meetings, embraced employee involvement in development of operational schedules, giving satisfactory and appropriate feedback on job performance and held regular and participatory Staff meetings, performed better than the others. This notwithstanding, only Mavoko and Makindu-Kibwezi water and Sewerage companies recorded a much better performance than the other companies.

Findings of the study revealed that all companies set norms and values ranging from mission statements, vision statement, core values, policies, and service charter. This being the case, only employees from Mavoko and Makindu-
Kibwezi Water and Sewerage Companies strictly adhered to their company values and norms. It was also found out that strong norms and clear values allow employees to understand the history and current methods of operation which provide guidance about the expected behaviors. Norms and values are important determinants of employee behavior and attitude at work place. Norms and values were found to provide shared feeling of working towards common goals.

The study found out that performance of organizations that employees had a strong belief and adherence on organizational artifacts performed better that the others. It was found out that identification badges and embracing modern technology highly influenced the performance of the water companies with the companies that employees value putting on of identification badges performing better than the others. This notwithstanding only Mavoko and Makindu Kibwezi Water and Sewerage Companies had embraced modern technology their operations were doing better than those that did not embrace. It was concluded that although different organizations have many artifacts, the performance of the company depended on the utilization and how the employees perceive that artifacts. All the organizations in which Majority of the employees agreed with the statements on organizational artifacts were found to be preforming better than the others.
5.3 Recommendations

The following are the recommendations emerging from this study:

1. Employers should be encouraged to embrace participatory approach in order to improve company performance.

2. Water and sewerage companies should embrace modern technology for speedy communication of water access-related information such as E-billing and SMS.

3. Heavy penalties should be levied on defaulters.

5.3.1 Recommendations for Further Research

Further studies should look into the factors leading to non-revenue water especially in Machakos Water and Sewerage Companies. This is because the amount of water lost in between the source is a lot which has a lot of effect on revenue collection by the water service provider.
REFERENCES


http://www.academia.edu/1220481/A_Review_Paper_on_Organizational_Culture_and_Organizational_Performance


http://onlinelibrary.wiley.com


http://www.socialresearchmethods.net/kb/


APPENDIX 1: QUESTIONNAIRE

I am a postgraduate student in South Eastern Kenya University. Am conducting a study in Machakos and Makueni County to determine the effect of corporate culture on performance of public water Companies. This is an academic exercise and the information that you provide will be treated with utmost confidentiality.

Kindly answer all the questions either by ticking in the boxes or writing in the spaces provided.

PART I: GENERAL INFORMATION-

1. Your gender: Female □  Male □

2. Age:

   20 – 30 years □
   31 – 40 years □
   41 – 50 years □
   > 50 years □

3. Educational level:
   a) Primary ( )
   b) Secondary ( )
   c) College ( )
   d) University ( )
e) Others ______________________

4. How long have you worked for this organization?

   - Less than 5 years □
   - 6–10 years □
   - 11 – 15 years □
   - 16+ years □

**Part B: VALUES AND NORMS OF THE WATER COMPANY**

<table>
<thead>
<tr>
<th>S/N</th>
<th>Please tick besides each statement whether you: Extremely agree, Agree, strongly disagree</th>
<th>strongly agree</th>
<th>Agree</th>
<th>strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The vision, mission and values of this organization are very clear, focused and easily conceptualized</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>All employees adhere strictly to the companies policies and procedures</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>The adherence to policies have reduced cases of uncounted for water, service hours and revenue collection efficiency</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Our organization’s service charter is clearly written and focused on improving service delivery</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>The staff at the front office record contacts of customers and kept well for ease of accessibility</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Managers are consistent and fair in administering work policies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Bills are promptly communicated to consumers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>The deadlines for reading meters have led to an increase in revenue collection by our company</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**PART C: INVOLVEMENT OF EMPLOYEES**

<table>
<thead>
<tr>
<th>Please tick besides each statement whether you are Extremely satisfied, satisfied or Extremely dissatisfied</th>
<th>Extremely satisfied</th>
<th>satisfied</th>
<th>Extremely dissatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Employees are involved in planning meetings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 All employees are actively involved in budgeting processes</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Employees are motivated to work more to attain the planned milestones by the company

Employees participate in annual review meetings

Employees are involved in development of operational Schedules

Employees are given satisfactory and appropriate feedback on their job performance

Staff meetings are regular and participatory

**PART D: ARTIFACTS**

<table>
<thead>
<tr>
<th></th>
<th>Please tick besides each statement whether you Extremely agree, Agree, strongly disagree or</th>
<th>strongly agree</th>
<th>Agree</th>
<th>strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Employees put on identification badge \ always at work</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Employees are rewarded for their good performance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Our Organization embraces modern technology in communicating with clients e.g. sending bills to customers via email or sms</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Embracing Modern technology by our company has improved our revenue collection</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Our organization prepares and gives free publications to clients on company achievements every year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>The publications of company achievements lead to better performance by our company</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Visitors to our organization are treated Well</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
MEASUREMENT OF THE PERFORMANCE OF WATER COMPANIES

1. What is the total population within your area of operation_______________________

2. What is total population covered or served with water__________________________

3. How often does your company conduct bacterial and chemical analysis
   a. 1 -2 months
   b. 3-6 months
   c. 6 + months

4. How are the results of water analysis utilized?
   ______________________________________________________________
   ______________________________________________________________
   ______________________________________________________________
   ______________________________________________________________

5. What is your Daily hours of supply
   a. 1- 5
   b. 6 – 10
   c. 11 – 15
   d. 15+ __________________________

6. Are bills communicated to consumers timely?

7. What is the approximate percentage of defaulters?
   a. 0 – 5%
   b. 6 -15 %
   c. 16 -25%
   d. More than 26%

8. What is the total amount billed

<table>
<thead>
<tr>
<th>Period</th>
<th>Amount Billed (kshs)</th>
<th>Revenue collected (Kshs)</th>
<th>total expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9. What is the amount of water produced and water sold for the period of time shown on the table below

<table>
<thead>
<tr>
<th>Period</th>
<th>Amount water produced</th>
<th>water sold</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10. What is the Unit price of water per M³ ________________________________

11. Are all your Consumers metered
   
   a) yes
   
   b) No

12. What is the total number of consumers ________________________________

13. What is total number of meters ________________________________
### APPENDIX 2: ASSESSMENT OF EMPLOYEE INVOLVEMENT

#### ASSESSMENT OF SATISFACTION LEVEL (%)

<table>
<thead>
<tr>
<th></th>
<th>MAVW&amp;SC</th>
<th>MACW&amp;SC</th>
<th>WOW&amp;SC</th>
<th>MAWIW&amp;SC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>S</strong></td>
<td><strong>A</strong></td>
<td><strong>SD</strong></td>
<td><strong>SA</strong></td>
<td><strong>A</strong></td>
</tr>
<tr>
<td>Employees are involved in planning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>meetings</td>
<td>5</td>
<td>20</td>
<td>1</td>
<td>29</td>
</tr>
<tr>
<td>All employees are actively involved in budgeting processes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>10</td>
<td>8</td>
<td>22</td>
</tr>
<tr>
<td>Employees are motivated to work more to attain the planned milestones by the company</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>22</td>
<td>9</td>
<td>19</td>
</tr>
<tr>
<td>Employees participate in annual review meetings</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>12</td>
<td>6</td>
<td>22</td>
</tr>
<tr>
<td>Employees are involved in development of operational schedules</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>15</td>
<td>8</td>
<td>17</td>
</tr>
<tr>
<td>Employees are given satisfactory and</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>8</td>
<td>5</td>
<td>17</td>
</tr>
<tr>
<td>Sentiment</td>
<td>4</td>
<td>6</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>appropriate feedback</td>
<td>64</td>
<td>38</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Staff meetings are</td>
<td>7</td>
<td>12</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>participatory</td>
<td>78</td>
<td>44</td>
<td>0</td>
<td>62</td>
</tr>
<tr>
<td>Total</td>
<td>99</td>
<td>4</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Average</td>
<td>6</td>
<td>14</td>
<td>6</td>
<td>20</td>
</tr>
</tbody>
</table>

Key: SA- Strong Agree; A – Agree; SD- Strongly Disagree;
## APPENDIX 3: ASSESSMENT OF ARTIFACTS

### ASSESSMENT OF SATISFACTION LEVEL (%)

<table>
<thead>
<tr>
<th></th>
<th>MAVW&amp;SC</th>
<th>MACW&amp;SC</th>
<th>WOW&amp;SC</th>
<th>MAKI&amp;W&amp;SC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SA</td>
<td>A</td>
<td>SD</td>
<td>SA</td>
</tr>
<tr>
<td>Employees put on identification badge/always at work.</td>
<td>24</td>
<td>59</td>
<td>17</td>
<td>11</td>
</tr>
<tr>
<td>Our Organization embraces modern technology in communicating with clients</td>
<td>29</td>
<td>66</td>
<td>5</td>
<td>19</td>
</tr>
<tr>
<td>Costumers use modern technology to pay bills</td>
<td>22</td>
<td>73</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td><strong>Total Percentages</strong></td>
<td><strong>75</strong></td>
<td><strong>198</strong></td>
<td><strong>27</strong></td>
<td><strong>41</strong></td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td>25</td>
<td>66</td>
<td>9</td>
<td>14</td>
</tr>
</tbody>
</table>
APPENDIX 4: ASSESSMENT OF NORMS AND VALUES

<table>
<thead>
<tr>
<th>norms &amp; values of statement</th>
<th>MAVW&amp;SC</th>
<th>MACW&amp;SC</th>
<th>WOW&amp;SC</th>
<th>MAKIW&amp;S</th>
</tr>
</thead>
<tbody>
<tr>
<td>The vision, mission and values of this organization are very clear, focused and easily conceptualized</td>
<td>17 A 73 SD 10</td>
<td>22 A 30 SD 12</td>
<td>68 A 20 SD 15</td>
<td>69 A 1 SD</td>
</tr>
<tr>
<td>All employees adhere strictly to the companies policies and procedures</td>
<td>10 A 85 SD 5</td>
<td>8 A 28 SD 0</td>
<td>77 A 23 SD 8</td>
<td>85 A 7 SD</td>
</tr>
<tr>
<td>The adherence to policies have reduced cases of uncounted for water, service hours and revenue collection efficiency</td>
<td>10 A 85 SD 5</td>
<td>8 A 53 SD 17</td>
<td>56 A 27 SD 15</td>
<td>85 A 0 SD</td>
</tr>
<tr>
<td>Our organization's service charter is clearly written and</td>
<td>12 A 81 SD 7</td>
<td>22 A 50 SD 22</td>
<td>66 A 12 SD 8</td>
<td>85 A 7 SD</td>
</tr>
</tbody>
</table>
focused on improving service delivery.

The staff at the front of office record contacts of customers and kept well for easy of accessibility.

<table>
<thead>
<tr>
<th>Managers are consistent and fair in administering work policies</th>
<th>24 76 0 17</th>
<th>56 57</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bills are promptly communicated to consumers</td>
<td>12 78 10 22</td>
<td>36 22</td>
<td>39 15 85</td>
</tr>
<tr>
<td>The deadlines for reading meter have led to an increase in revenue collection by our company.</td>
<td>22 78 0 17</td>
<td>31 57</td>
<td>21 15 85</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total</th>
<th>117 646 37 141</th>
<th>344 163</th>
<th>456 181</th>
<th>114 656</th>
<th>30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average</td>
<td>15 81 5 18</td>
<td>43 39</td>
<td>20 57 23</td>
<td>14 82</td>
<td>4</td>
</tr>
</tbody>
</table>
APPENDIX 5: CORRELATION ANALYSIS

Effects of Artifacts on Performance Of Water Companies

<table>
<thead>
<tr>
<th>X</th>
<th>Y</th>
<th>Xy</th>
<th>X^2</th>
<th>Y^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>29</td>
<td>54</td>
<td>1566</td>
<td>841</td>
<td>2916</td>
</tr>
<tr>
<td>64</td>
<td>67</td>
<td>4288</td>
<td>4096</td>
<td>4489</td>
</tr>
<tr>
<td>60</td>
<td>72</td>
<td>4320</td>
<td>3600</td>
<td>5184</td>
</tr>
<tr>
<td>40</td>
<td>55</td>
<td>2200</td>
<td>1600</td>
<td>3025</td>
</tr>
<tr>
<td>Σ193</td>
<td>Σ248</td>
<td>Σ Xy 12374</td>
<td>Σ X^2 10137</td>
<td>Σ Y^2 15614</td>
</tr>
</tbody>
</table>

\[ r = \frac{N \sum xy - (\sum x)(\sum y)}{\sqrt{[N \sum x^2 - (\sum x)^2][N \sum y^2 - (\sum y)^2]}} \]

\[ r = \frac{4 \times 12374 - (193) \times (248)}{\sqrt{4 \times (10137) - (193)^2} \times [4 \times (15614) - (248)^2]} \]

\[ r = \frac{1632}{\sqrt{3140648}} \]

\[ r = \frac{1632}{1772.2} \]

\[ = 0.9 \]
Effect of Employee Involvement on Performance of Water Companies

<table>
<thead>
<tr>
<th>X</th>
<th>Y</th>
<th>Xy</th>
<th>X²</th>
<th>Y²</th>
</tr>
</thead>
<tbody>
<tr>
<td>26</td>
<td>54</td>
<td>1404</td>
<td>841</td>
<td>2916</td>
</tr>
<tr>
<td>73</td>
<td>67</td>
<td>4891</td>
<td>4096</td>
<td>4489</td>
</tr>
<tr>
<td>66</td>
<td>72</td>
<td>4752</td>
<td>3600</td>
<td>5184</td>
</tr>
<tr>
<td>42</td>
<td>55</td>
<td>2310</td>
<td>1600</td>
<td>3025</td>
</tr>
</tbody>
</table>

\[ \sum X = 207 \quad \sum Y = 248 \quad \sum Xy = 13357 \quad \sum X^2 = 10137 \quad \sum Y^2 = 15614 \]

\( r = \frac{N \sum xy - (\sum x)(\sum y)}{\sqrt{[N \sum x^2 - (\sum x)^2][N \sum y^2 - (\sum y)^2]}} \)

\[ r = \frac{4(1357) - (207)(248)}{\sqrt{4(12125)-42849)} (4(15614-61504)}} \]

\[ = \frac{1632}{\sqrt{3140648}} \]

\[ = \frac{2092}{3272.8} \]

\[ = 0.64 \]
Effect of Norms and Values on Performance of Water Companies

<table>
<thead>
<tr>
<th>X</th>
<th>Y</th>
<th>XY</th>
<th>X^2</th>
<th>Y^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>43</td>
<td>54</td>
<td>2322</td>
<td>1849</td>
<td>2916</td>
</tr>
<tr>
<td>82</td>
<td>67</td>
<td>5494</td>
<td>6724</td>
<td>4489</td>
</tr>
<tr>
<td>81</td>
<td>72</td>
<td>5832</td>
<td>6561</td>
<td>5189</td>
</tr>
<tr>
<td>57</td>
<td>55</td>
<td>3135</td>
<td>3249</td>
<td>3025</td>
</tr>
</tbody>
</table>

\[ \sum X = 263 \quad \sum Y = 248 \quad \sum XY = 16783 \quad \sum X^2 = 18383 \quad \sum Y^2 = 15614 \]

\[ X = \text{norms} \quad Y = \text{performance of water companies} \]

\[
r = \frac{N \sum xy - (\sum x) (\sum y)}{\sqrt{[N \sum x^2 - (\sum x)^2][N \sum y^2 - (\sum y)^2]}}
\]

\[
r = \frac{4(16783) - (263)(248)}{\sqrt{4(18383) - 55696)(4(15614) - 61504)}}
\]

\[
r = \frac{1908}{\sqrt{4153576}}
\]

\[
r = \frac{1908}{2038}
\]

\[ = 0.94 \]