PRIME
Policy Research Institute of Market Economy
آزاد معیشت۔ خوشحال پاکستان

Building on Privatisation

A PERFORMANCE REVIEW OF ELECTRICITY UTILITY COMPANIES IN PAKISTAN

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In Collaboration with

Friedrich Naumann STIFTUNG FÜR DIE FREIHEIT

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A Performance Review of Electricity Utility Companies in Pakistan

Dr. Raza Ullah

PRIME is a public policy think tank working for an open, free and prosperous Pakistan by creating and expanding a constituency for protective function of the state and freedom of the market.

The study reviews the performance of electricity utility companies in Pakistan by comparing the state owned companies (PESCO & IESCO) with the privately managed Karachi Electric. Using the benchmarks of governance, operational management, financial performance and commercial management, the report develops a scorecard to track the performance of DISCOs and indicates factors which have led to the turnaround of KE after its privatisation. The report is beneficial for the analysts of power sector as well as decision makers."

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Acronyms

ABC - Aerial Bundled Conductor
AEB – Area Electricity Board (former name for DISCO)
AMR – Automated Metre Reading
BOD - Board of Directors
BPS - Basic Pay Scale
CE – Chief Engineer
CEO – Chief Executive Officer
CFO – Chief Financial Officer
CHASNUPP: Chashma Nuclear Power Plant
CIS – Customer Information System
CPPA – Central Power Purchasing Agency
CPPs — Captive Power Plants
CSO – Customer Services Officer
CSR – Corporate Social Responsibility
CTC – Circle Training Centre
DISCO – Distribution Company
DISCOs – Distribution Companies
DOP – Distribution of Power
DP – Distribution Planning
ELR – Energy Loss Reduction
ERP – Enterprise Resource Planning
FESCO – Faisalabad Electric Supply Company Limited
GENCO – Generation Company
GEPCO – Gujranwala Electric Power Company Limited
GIS – Geographic Information System
GOP – Government of Pakistan
GST – General Sales Tax
GWh – Gigawatt hour
HESCO - Hyderabad Electric Supply Company Limited
HQ – Headquarter
HR – Human Resource
HT – High tension(11kV)
IA – Internal Audit
ICT – Information Communication Technology
IESCO – Islamabad Electric Supply Company Limited
IPP – Independent Power Producer
IT – Information Technology
KALAMZU book – Metre Reading book
KANUPP— Karachi Nuclear Power Plant
KE— Karachi Electric
Km – Kilometre
KPIs – Key Performance Indicators
kV – Kilovolt
kVA – Kilovolt Ampere
kW – Kilowatt
kWh – Kilowatt hour
LDC – Lower Division Clerk
LESCO - Lahore Electric Supply Company Limited
LS – Line Superintendent
LT – Low tension, (0.4 kV)
M&T - Metreing and Testing
MDI - Maximum Demand Indicator
MEPCO – Multan Electric Power Company Limited
MIS – Management Information System
MW – Megawatt
MWh – Megawatt hour
MWP – Ministry of Water and Power
NADRA – National Database and Registration Authority
NEPRA – National Electric Power Regulatory Authority
NTDC – National Transmission and Dispatch Company Limited

PC - Planning Commission

PEL – Pak Elektron Ltd.

PEPCO - Pakistan Electric Power Company Limited

PER - Performance Evaluation Report

PESCO – Peshawar Electric Supply Company Limited

PC - Planning Commission

PDIP – Power Distribution Improvement Program

PEDB – Alternative Energy Development Board

PRO – Public Relation Officer

PPRA – Public Procurement Regulatory Authority

PPIB— Private Power and Infrastructure Board

QESCO – Quetta Electric Supply Company Limited

RTC - Regional Training Centre

RPPs – Rental Power Plants

SBP – State Bank of Pakistan

SDO – Sub Divisional Officer

SPPs – Small Power Producers

USAID – United States Agency for International Development

WAPDA – Water and Power Development Authority

XEN – Executive Engineer

Foreword

Privatisation, as everyone should recognize, encourages efficiency, transfer of technology, foreign capital investment and higher tax revenue, in addition to generating higher employment opportunities for both skilled and unskilled jobless workers of the country. However privatisation should be seen as a means to improve performance and open competition rather than an end in itself. Therefore an enabling environment must ensure level playing field for all players. And thus the thrust of power policy should be on promoting and protecting good and healthy competition instead of competitors.

There is no competition at the level of distribution in the energy sector. Unless all distribution companies are made responsible for their finances and allowed to function independently, it would not be possible to bring in efficiency in the power sector because inefficient DISCOs are being cross-subsidized by some profit making or at least more efficient DISCOs.

The turnaround of Karachi Electric offers two paradoxical lessons: first, privatisation is not enough, and second, without privatisation, nothing works. In first three years after privatisation, this report tells us, the Karachi Electric continued to bleed like the old days. However, since the takeover by the new management, the KE has entered a new era. Building on a significant down-sizing of the company, the management radically changed its human resource and governance structures. Not only its service quality has increased, but also its social role in the city life has become much more responsible. In other words, it has built on the privatisation, without which it would have had no incentive of investing over $1billion.

Unbundling of the archaic WAPDA in the nineties has followed certain reforms, including appointment of independent board of directors in the DISCOs. However, these independent boards have not been able to bring the DISCOs out of crises as the companies remained marred in bureaucratic wrangling. As this report shows, the DISCOs are so much dependent on the respective ministries, that they are required to transfer entire amount of bill collections to the central agency, which after adjustments and deductions, transfers the budgeted amount back to DISCOs.

An important contribution of this report is development of a comparative framework to monitor and track the performance of DISCOs. The laggard performance of state operated DISCOs – those operating in Peshawar and Islamabad- and superior performance of the privately owned DISCO – KE- are quite revealing. The report thus offers parameters which can also be used by other researchers for conducting their own evaluation. In this respect, the author of this study, Dr. Raza Ullah needs to be appreciated for his contribution.

Each wave of deregulation and liberalisation of any sector has been accompanied by creation of a regulatory agency, which in this case is NEPRA. While ‘policing’ and ‘sector development’ are the legitimate goals of sectoral regulators like NEPRA, it can only happen through independent regulatory bodies. This report notes that NEPRA is overshadowed by various ministries, which has compromised a major goal of deregulation. This situation demands a relook at the entire power policy, especially after its failure to keep up with the rising demand of electricity consumers.

Ali Salman
Executive Director, PRIME Institute

Executive Summary

For over two decades, efforts are being made to restructure and reform the economically bleeding electricity distribution sector into a profitable business in Pakistan. But the government has consistently failed to achieve this goal. The causes of this failure need to be identified. Lack of professional approach on the part of government and regulatory bodies coupled with poor governance in state owned power sector including a failure to learn from the privatisation experience are stated as contributing factor.

This research is undertaken to compare the performance of three distribution companies in Pakistan, in which two state owned enterprises: Peshawar Electric Supply Company (PESCO) and Islamabad Electric Supply Company (IESCO) and one privately managed, Karachi Electric are included. These companies are responsible to distribute electricity in their jurisdictions in Peshawar, Islamabad and Karachi respectively. The selection is based on a comparison of the two different power entities in Pakistan: privately owned company KE with state owned companies (PESCO with highest line losses and IESCO with the least line losses among the nine power companies in Pakistan). In first chapter, performance components are identified. Then each company is evaluated on these measures.

The performance components identified are: Governance, Operation Management, Financial Performance; and Commercial Management. The first component 'Governance' evaluates leadership, strategy, organisation, and human resource management; 'Operation Management' investigates technical, engineering and other operational issues; 'Financial Performance' covers financial reports, alignment of financial performance with organisational strategic needs and good corporate practices; while Commercial Management evaluates billing processes, customer service and communication, social media, and corporate social responsibility within power sector companies. Information and data about power sector were taken from published reports of these companies.

A scorecard has been developed in which the performance of these selected power companies has been compared on the given parameters. The results show that PESCO, IESCO and KE have 23.6, 31.7 and 57.1 scores respectively out of an aggregate score of 70. The result suggests that Karachi Electric with 57.1 marks has better performance in comparison with the other two companies. Summary of the results is given below.

Governance I scorecard has rated three selected companies on the basis of their leadership, which includes Chairman, Chief Executive, and Board of Directors; PESCO got 5.1, IESCO 6.1 and KE got 9.1 score out of 10.

Governance II score indicates Strategy and Organisation. In which PESCO scored 2.2, IESCO 3.9 and KE 8.9 out of 10. The result shows that Karachi Electric has well defined strategies to achieve organisational mission along with its supporting organisation structure and policies, IESCO has moderate strategic intent; while PESCO's operation is non-strategic and it is performing only routine activities without any linkage to some identified strategy or mission of their organisation.

Governance III is HRM and the scorecard evaluates the alignment of human resource with organisational mission and strategy. PESCO and IESCO are overstaffed comparing with KE (for example, consumers per employee) while KE has lean management policy and has retrenched surplus workers after privatisation. Besides, KE has also continued training and organisation development programs, while PESCO and IESCO train only promotable employees at a certain stage during the service.

Operation management scorecard has assigned scores 2.6, 4 and 7.5 to PESCO, IESCO and KE respectively. It indicates the consistent decline in Transmission and Distribution losses in IESCO and KE along other measures.

Financial performance scorecard ranked PESCO as 5.2 score, IESCO 6.5 and KE 8.3 scores. PESCO and IESCO companies are in financial losses while KE is the only profitable company since 2011.

Commercial Management I evaluates Internal Business Processes (IBP) and customers relationship. On these measures, the scorecard shows PESCO at 4.2, IESCO at 5.3 and KE at 7.9. The scores indicate KE is performing well in comparison to the remaining two companies based on customer service and internal business processes.

Commercial Management II has scored Brand Management, Marketing and CSR, Customer Outreach as the basis for these companies. In this regard PESCO has 1.9 score, IESCO 3.4 and KE has 8.7 scores. Karachi Electric has changed its brand name from KESC to KE to develop a new brand image in its stakeholders, while the rest are still working as legacy companies of WAPDA with its identity.

The study concludes that KE is performing exceptionally well in comparison to the two state owned companies PESCO and IESCO due to the decline in transmission and distribution losses, profitability and leaner organisation with adoption of newer technology in power sector in its post-privatisation phase particularly under the current management

1 Introduction

The present report compares different performance indicators of the selected power sector companies in Pakistan. It evaluates the state owned power sector companies, Islamabad Electric Supply Company (IESCO) and Peshawar Electric Supply Company (PESCO) with Karachi Electric (KE) the only vertically integrated power company in private sector. KE was privatised in 2005 and then in 2008 it was bought by a new private sector owner. Abraaj Capital Limited a Dubai based financial company also entered into partnership with the same company, while the IESCO and PESCO are the legacy companies of former WAPDA Area Electricity Board.

In the first chapter of this report, the general environment of power sector in Pakistan is discussed, followed by some vital information about the selected companies based on four components of Governance, Operation Management, Financial Performance and Commercial Management. In the last chapter, the performance of these companies is evaluated and a scorecard is developed based on these measures.

1.1 Background

In the modern world, sustainable and affordable energy resources have become imperative for the socio economic growth of a country. Countries, rich in affordable and surplus energy are showing much higher economic growth compared to those short in its supply. Shortage of power supply has become the biggest hurdle in Pakistan's economic growth with a dent of over $4 billion losses in textile and export industries. Pakistan is ranked 138th in power consumption with 449 kWh per capita in the world, which is one fifth of international average of 2465 kWh per capita (The World Bank Report, 2013). The main reason for such a low output is not enough generation of power with an average 4500 MW power gap in demand and supply. The shortage of electricity led to unprecedented price hike and sometimes created law and order situation in the country. The same has also political repercussions for the political parties. In the elections of May 2013, political parties used it as an election slogan for winning elections. Persistent shortage of electricity also affects FDIs in Pakistan and decline in industrial growth.

> The World Bank Report (2013) has ranked Pakistan 138th in power consumption with 449 kWh per capita in the world, which is one fifth of international average of 2465 kWh per capita.

In Pakistan, 65% power comes from fossil fuels, 33% from hydro while 2% from nuclear sources. Pakistan has indigenous natural gas which is sold as low-priced commodity and mostly consumed in CNG and houses and the remaining is allocated to industries and power generation. To keep the generation companies in operation, the government has replaced natural gas with expensive furnace oil and other imported fuels. The other contributing factor is non-competitive tariff, set by National Electric Power Regulatory Authority (NEPRA), not reflecting the actual cost of production and the gap in price and cost of power is filled by

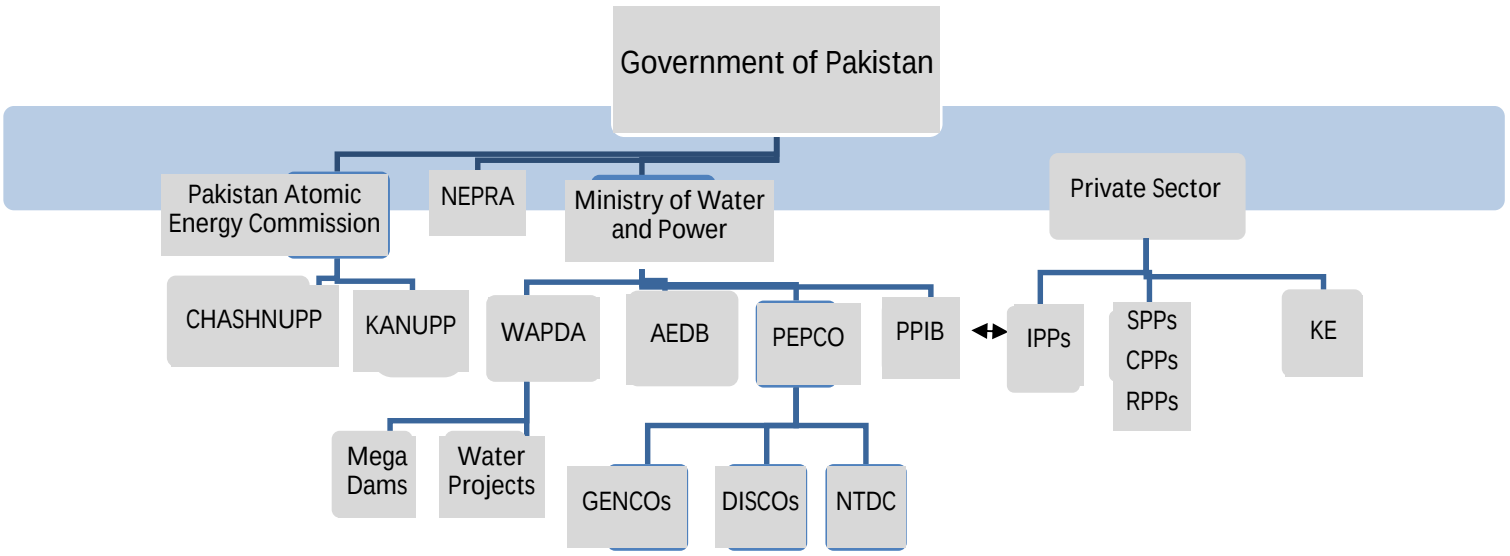
government subsidies. International reports suggest an increase of at least 49% in electricity prices to make it possible for power sector to survive. Any efforts to raise power prices are politically resisted making it entirely an unattractive venture for investors other than law and order situation, while the cheap option of some affordable hydro power projects like Kalabagh Dam is facing opposition from nationalist parties and the few hydro projects are expensive for government to launch.

Over years, energy issue had become a major national issue comprising rampant corruption, public protests, unauthorised connections '*kunda*', and non-payment of service dues by the consumers because of the poor service quality. Federal Ombudsman (Wafaqi Mohtasib) received the highest number of complaints against power sector during 2005-2009 (Wafaqi Mohtasib Annual Report 2009). The number is 2181 (2005), 508 (2006), 10179 (2007), 9855 (2008) and 11287 (2009) complaints which are the highest among other government department and services i.e. 70.23% among the received complaints. Wafaqi Mohtasib (2009) report states that among the total complaints, 4% are against IESCO, 35% against PESCO while 6% complaints are against KE. These complaints include excessive/wrong/inflated billing/imposition of penalty, disconnection, and delay in providing connection, replacement of defective metres, and installation of poles/transformer, in which wrong and excessive billings are at the top.

1.2 Structure of the Power Sector

NEPRA regulates power sector in Pakistan under Generation, Transmission and Distribution of Electric Power Act 1997. Under this act distribution of power was licensed to ten power distribution companies. These are PESCO (Peshawar), TESCO (FATA), IESCO (Islamabad), GEPCO (Gujranwala), LESCO (Lahore), FESCO (Faisalabad), MEPCO (Multan), HESCO (Hyderabad), QESCO (Quetta) while one company in private sector is Karachi Electric (KE).

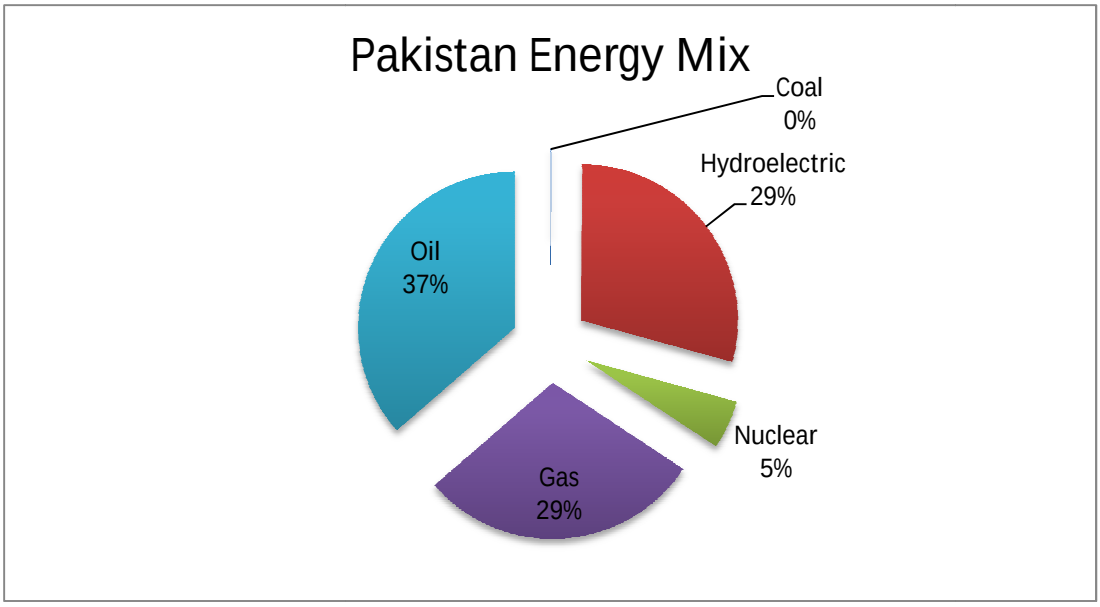
Figure 1: Structure of Power Sector



The structure of power sector in Pakistan is given in figure 1 National Transmission and Dispatch Company (NTDC) coordinates generation and transmission/distribution of electricity. Energy is generated from different sources like WAPDA (Water and Power Development Authority), generation companies, and Independent Power Producers (IPPs) which are around twenty in number. There are four generation companies GENCOs. GENCO I is Jamshoro Thermal Power Station, Kotri Thermal Power Station, GNECO II is Guddu Thermal Power Station and Quetta Thermal Power Station, GENCO III is Muzaffargarh Power Station, Faisalabad Thermal Power Station, Multan Power Station, and Shahdara Power Plant while GENCO IV is Lakhra Coal Power Plant. In alternative energy production wind mills are also installed by a Turkish company with 56.4 MW Jhimpir wind power plant. The energy received from these sources is supplied to distribution companies including Karachi Electric which also has generation capacity.

WAPDA generates energy from hydel and thermal sources up to 11272 MW. Hydel power generation varies between 2414 to 6761 MW due to availability of water in rivers. Karachi Electric has also its generation capacity. Independent Power Producers IPPs has become now a huge contributor of electricity to national grid. Pakistan has the total generation capacity of 21143 MW, and the following energy mix.

Figure 2: Pakistan Energy Mix



1.3 Challenges to Power Sector

Energy shortage has significantly slowed down the pace of industrial production. The main challenges of Pakistan power sector are now circular debts, energy conservation, transmission and distribution losses and the addition of new generation plants including hydro dams.

1.3.1 Circular Debts

Circular debt is the shortfall in payment to power supply companies by Central Power Purchasing Agency (CPPA). The shortfall in payment is due to insufficient DISCO payment to CPPA. Distribution companies prefer to cover their own cash flow needs rather paying to CPPA for the power purchase. Cash shortfall travels through the entire energy supply chain to fuel suppliers resulting in reduction in power generation by thermal plant and increase in load-shedding. The root causes of circular debt are bad power sector governance, poor revenue recovery from consumers, uncontrollable Transmission and Distribution (T&D) losses, inefficient generation, inadequate budgeting of subsidies, unfavourable generation mix and legacy payment etc.

Circular debt has become one of the problematic issues in Pakistan's power sector. After coming in power PMLN government promised to resolve energy crisis according to its election agenda, and paid around $5 billion adjusting the circular debt to different energy companies. It would have helped power generation companies to add more energy about 1700 MW to national grid. Although, the payment of circular debt initially helped to some extent but the circular debt again started gaining its momentum due to poor performance of overall power sector. The main factor behind circular debt is the subsidy government is offering to the citizens making power business as less feasible. In this connection, the government is also working on a Multi-Year Tariff from 2015-16 in which the government will offer subsidy to the vulnerable segments of the customers and certain segments in the market as well which are taking undue benefit of this scheme. NEPRA has been directed to evolve a workable mechanism for it to implement Multi Year Tariffs regime which would promote efficiency and attract investment. This step could be helpful in controlling circular debt.

Table 1 Circular Debt Growth 2006-12 (Rs. Billion)

Total Circular Debt at the end of year	2006	2007	2008	2009	2010	2011	2012
	84.07	111.26	144.99	161.21	235.65	365.66	537.53

Table 1 indicates increase in circular debt from year 2006 to 2012. Government has paid it in 2013 to the generation companies but could not evolve a permanent mechanism to put halt to it. Circular debt would remain till the improvement in financial position of power sector especially distribution companies.

1.3.2 Energy Generation and Conservation

Pakistan has installed a power generation capacity of more than 20000 MW (Excluding KE) but the actual generation is 15000 MW for reasons like outdated and inefficient power plants, cash crunch etc. The problem with Pakistan power sector is mainly due to its heavy reliance on thermal power plant instead of economical hydro electric energy. While most of hydroelectric power and irrigation requirements were fulfilled from Tarbella, Mangla, and Ghazi Barotha, Pakistan has three nuclear plants as well. KE also gets over 500 MW from NTDC while it has

added 1000 MW more capacity to their portfolio but due to inconsistent supply of gas, the plants in KE are underperforming. The main problem with Pakistan is poor collection from consumers, power theft or *Kunda* culture, or corruption in power companies. According to an estimate 1% improvement of current line losses of 27.8% in KE would save Rs. 1.5 billion per month. The government is also paying subsidy to consumer and apparently hike in prices could be a solution. But it has been noted that every time increase in electricity prices forced consumers for theft and increase in pilferage. Hydroelectric power costs as low as Rs 2 per unit while the bulk power purchase tariff paid to IPPs (mostly run by furnace oil) by government is more than US$0.7/unit. Conversion of power plant from furnace oil and gas to coal is another economical option like exploiting potential of Thar coal mines which has an approximation of 185 billion tons of lignite coal which can generate 50000 MW power for a long period of time. The hydroelectric sites identified for construction of small and midsized dam also have a potential of more than 40000 MW of energy. Pakistan being an agricultural country also has huge potential to produce electricity from sugar plants which could deliver more than 3000 MW of energy along ethanol as a bye product.

Government is also paying subsidy to consumers and apparently hike in prices could be a solution. But it is noted that every time increase in electricity prices forced consumers for theft and increase in pilferage.

The current fuel prices have a link with energy crisis in Pakistan and also the non-availability of natural gas. For example, fuel prices of power generation have increased by twice from Rs. 21,259 per ton in 2007. It increased electricity per unit cost by 253 percent. The non-availability of enough gas for generation companies has pushed the generation from 43.5 billion units level in 2005 to 27.6 billion units in 2012. It indicates that Pakistan has moved from an economical energy source (Rs. 5-6 per unit from gas) to costly energy (Rs. 16-17 per unit from furnace oil). Therefore, conversion from natural gas to furnace oil and the decrease of 15.9 billion units from natural gas translates into annual incremental cost of Rs 150-175 billion. It forced the government to increase electricity cost by more than 100 percent. Increase in electricity prices also resulted in more power theft. Therefore, without improving efficiency and governance of power companies only increase in energy pricing is counterproductive.

1.3.3 Transmission and Distribution Losses

Transmission and Distribution losses contribute to the inefficient operation of distribution companies which contributed Rs. 22.78 billion to the circular debt in 2012 (The Causes and Impacts of Power Sector Circular Debt in Pakistan, 2013). In Pakistan over 50% aggregate losses are due to non-technical reasons as theft, pilferage etc. in reduction of 1% in aggregate losses will contribute to over Rs. 7 billion in power purchase costs to DISCOs and serve over 2.6 million additional consumers. Such losses could be minimized with installation of state of the art

In reduction of 1% in aggregate national T & D losses will contribute to over Rs. 7 billion in power purchase costs to DISCOs and serve over 2.6 million additional consumers.

metring system as AMR, and other technical measures. If T & D losses are reduced to international standard of 7%, it would result in increase of annual revenue of over Rs. 75 billion to power companies.

1.4 Overview of Methodology

Information about power sector companies are evaluated on four bases i.e. Governance, Operation Management, Financial Performance, and Commercial Management. Governance component has further three sub components i.e. Leadership, Organisation and Strategy, Human Resource Management; Operation Management includes organisation's operational issues like Engineering, technical and other operational issues; Financial Performance includes financial management, financial reporting and its alignment with strategic direction of the organisation; and Commercial Management includes billing processes, customer services, customer relationship management, Corporate Social Responsibility, Marketing and outreach, social media and Internal Business Processes.

The companies' statistics were taken from the following sources:

- Company's Published Annual Reports
- Disclosed Information to Regulator
- Company's Websites
- Reputed Third Party Reports
- Interviews

Each distribution company was evaluated based on the four performance components. A scorecard of selected companies was developed. Scores were allotted from 1 to 10 each, and were allotted to each sub component. The allotment of score was based on the mentioned criteria given with each score, comparing performance of each company on the mentioned sub components. The purpose of scorecard in this report is to make it more objective and meaningful.

1.5 Study's Limitations

This report is based on secondary available data. The authenticity of data depends on the source, and the conclusion drawn on it is subject to the accuracy of available data. Therefore, the conclusion in this report is not final and author admits its limitations

Table 2: Scorecard

Governance I (Leadership)	Chairman (2.5)	CEO (2.5)	BoD (2.5)	Strategic Intent (2.5)	Score (10)
Governance II (Organisation & Strategy)	Strategy Supporting Structure (2.5)	Strategy supporting policies (2.5)	Business Growth Plans (2.5)	Technology Orientation (2.5)	Score (10)
Governance III (Human Resource Management)	Safety Practices (2.5)	OD Plans (2.5)	Org. Culture (2.5)	Employment Practices (2.5)	Score (10)
Operation Management	Line Losses (2.5)	Infrastructure (2.5)	Process Management (2.5)	Theft Control (2.5)	Score (10)
Financial Performance	Investment (2.5)	Profit/Loss (2.5)	Contribution to Circular Debt (2.5)	Internal Audit Reporting practices (2.5)	Score (10)
Commercial I (IBP and Customers)Company	IBP (2.5)	Customer Orientation (2.5)	Stakeholders Communication (2.5)	Rev. Collection Ratio (2.5)	Score (10)
Commercial II (Brand Management, Marketing and CSR)Company	Brand Management (2.5)	CSR (2.5)	Customer Outreach/social media use (2.5)	Website (2.5)	Score (10)
Total					70

Every component is divided into appropriate sub-components. Then each sub-component is evaluated on four performance indicators; for example Commercial Management has two sub components which are Commercial I (IBP and Customers) and Commercial II (Brand Management Marketing and CSR). Commercial II is judged over four performance indicators Brand Management, Corporate Social Responsibility, Customer outreach/social media use, and websites. There are certain other performance measures as well but only those were considered which were comparable and literatures have shown evidences of its importance. Each performance measures were allocated 2.5 scores, making each scorecard of 10 scores and seven scorecards make an aggregate value of 70.

2 Peshawar Electric Supply Company (PESCO)

2.1 PESCO Profile

Peshawar Electric Supply Company (PESCO) is a state owned electricity distribution company having its jurisdiction in all districts of province Khyber Pakhtunkhwa. It covers geographical area of 74,521 Sq. km. PESCO has inherited the organisational structure from WAPDA after its unbundling in 1998. In 2003, FATA was detached from PESCO forming new company Tribal areas Electric Supply Company (TESCO). The company has 2.7 million registered customers in which 88% are domestic while the remaining are either industrial or commercial. PESCO caters to 13% of Pakistan electricity consumer needs. PESCO performance varies across different geographical region for example Hazara region has least losses and highest revenue collection. The company is facing heavy losses since its inception in 1998 and has suffered accumulated losses of PKR 61 Billion by June 2012.

This company is causing the highest power losses among other distribution companies. It is operating in the most difficult region of the country plagued with terrorism and lawlessness where incidence of non-payment of bills on the part of customers is quite high.

Table 3: Company's Statistics

Company's Statistics	
Peak demand during FY 2012-13	2,840 MW
Number of Consumers	2.78 Million
Area	74,521 Sq. km
Distribution lines (400 V)	43,554 Km
Number of HV transformers	193
Number of burned down HV transformers	12
Number of LV transformers	55,473
Number of burned down LV transformers	1,906
(Source: PESCO's Tariff Petition to NEPRA 2012-13)	

2.2 PESCO Initiatives 2012-13

- GIS system has been installed in some spots and few field staff are trained in its use (USAID).
- Enterprise Resource Planning (ERP) is under process to install (with support of USAID).
- Employees are being trained with USAID collaboration
- Safety Trainings are underway in PESCO
- Modern metring systems are underway
- Rickshaws and other vehicles are added to its transportation fleet for fast access to company facilities.
- Some new distribution technologies at grid station level
- One Window service facility at each Sub-Division
- Establishment of Computerised Customer Service Centres in each Circle
- Establishment of Mobile Customer Service to facilitate instalments and correction of the bills
- Central Chief Executive Customer Service Centre
- Restructuring of Circles, Divisions and Sub Divisions
- Establishment of Model Sub-Divisions
- Establishment of Marketing Cell and Task Force at PESCO HQ to facilitate industrial/commercial/tube-well consumers
- Frequent Open Forums for employees for redressal of their problems

2.3 SWOT Analysis

Strengths

- Company is a public sector enterprise and the government funds its projects
- The company has inherited enough resources, land and machinery from WAPDA, which could be helpful to the company
- Company is a power distribution company and is not confronting problems faced by a vertically integrated power company
- There is no other licensed distribution company in its jurisdiction

Weaknesses

- Line losses
- Shortage of safety equipment
- Shortage of skilled personnel
- Lack of advance and high tech machinery with company
- Unavailability of computerised fault detection system in low voltage distribution
- Less recovery from defaulters
- Bureaucratic culture
- Grade based salary structure

Opportunities

- There are immense business opportunities, for example, higher revenue with continuous power supply and coverage to unexplored power market
- Employing competent and qualified graduates instead the presently semi-literate
- Collaboration and strategic alliances with Engineering Universities

Threats

- Law and order situation
- Habit of non-payment of dues in customers
- Due to prevailing military operation against militants, there is a risk of attack on PESCO's installations
- Reduction in Power Supply from NTDC may affect business plans
- Natural Disasters, floods, earth quake has badly affected PESCO infrastructure, and it could again cause damage to PESCO mainly in hilly areas

2.4 Human Resource Management

PESCO HR practices are similar to other public sector organisations. It has inherited HR policies legacy from WAPDA and still represents the same culture. General public and consumers look to PESCO as WAPDA while the employees still introduce themselves as WAPDA employees.

The public sector like practices of maintaining status quo has also infected PESCO, like other public sector organisation. PESCO's promotion, placement and recruitment practices follow employees' seniority formula rather than merit and performance. Besides, many of the recruitment at non-officers positions take place on employee's quota. The HR policy in PESCO reserves 30% of published vacancies for employees' dependents. The USAID's PESCO Operational Audit report (2011) says that in 2009-10, 1047 (including 74 dependents of deceased employees) out of a total 1560 employees were recruited out of this quota (67%) and the rest 513 (32%) were on merit recruitment.

General public and consumers look to PESCO as WAPDA while the employees still introduce themselves as WAPDA employee.

These archaic public sector practices have been abandoned in many public sector organisations, are still in practice in PESCO. It impedes the promotion of a progressive corporate culture required to move the organisation with competitive and strategic gains. Besides, as government owned entity, it is also open to political intervention and inefficiency.

PESCO pays salaries to employees based on basic pay scale which is very low compared to the nature of their duties. Lower salaries force the employees to get involved in corrupt practices. Due to continuous political interference employees see their posting and appointment through political connections rather performance.

Although, in many instances, PESCO brought improvements in its technical system, but no proportionate changes have been brought in human resource management. Organisation

Development (OD) program has neither been conducted and nor it has ever been indicated in its practice on regular basis. USAID's PESCO Operational Audit report (2011) suggests that 65% of PESCO staff is virtually illiterate and only 28% of PESCO's staff have a university degree. The majority of employees in PESCO belong to field positions; numbers of employees working in training department are very few to train more than 17000 employees. After conversion from Area Electricity Board (AEB) of WAPDA, PESCO failed to introduce major restructuring according to the needs of the industry. There is no employee handbook in PESCO which informs employees about the Do's and Don'ts of their practices. Besides, Regional Training Centre at Charsadda also lacks infrastructure facilities, and training materials with inadequate manuals (training manual was developed in 1980). The report also notes that PESCO lacks comprehensive training and development action plan. Besides, training programs are only targeted to promotable employees and only 1011 employees out of 17000 employees were trained in 2010.

2.5 Health and Safety Issues

There is no well-defined system for health and safety of employees in PESCO. There are a number of fatalities in PESCO. At the moment there is no health and safety campaign for consumer/general public at place. The number of injuries and fatalities of consumers have no record. Especially among field staff, line men can be seen working with broken bamboos and local dress of *shalwar qameez* rather than a safe protective dress to keep them safe from electrocution. Field workers normally use local arrangement to handle heavy installations like transformers, or connecting broken cables. There is a central WAPDA hospital in Peshawar which caters PESCO's employees healthcare needs, though, there is no special burn unit for burned and electrocuted employees or consumers and no formal arrangement of health insurance for its employees in PESCO.

2.6 Operation Management

PESCO supplies electricity to 13% of customer volume in Pakistan, whereas they consume 10% of total energy while contributing 6% to the total revenue collected. HT and LT network holds 11% and 21% of the all DISCOs length.

PESCO performance varies across different geographical areas for example; Hazara region is well performing and has the lowest line losses i.e. 12% and highest revenue recovery in other PESCO circles.

PESCO electrification amounts to 55% of its construction work which is mostly politically decided. Although, local MNA or MPA pay for its construction and the erection of poles but then its maintenance and operation costs are born by PESCO, making PESCO's construction and installation business-wise unfeasible.

The transmission and distribution losses recorded the highest among the rest of DISCOs. Table 4 shows that PESCO records 34.2% losses in year 2012-13.

Table 4: Technical Losses 2012-13 (Units in Millions)

Status	Units			% age Losses
	Received	Billed	Lost	
	10892	7162	3730	34.2%

(PESCO's Annual Report 2012-13)

PESCO has a track record of high line losses and the trend shows that transmission and distribution losses have inconsistent trend.

2.7 Financial Performance

In 2010, PESCO's collection rate for government clients was 53.8% while for private clients it was 84.2%, hence making public sector as major defaulter. GOP accounting rules prohibit making provision for past due receivables from government clients and therefore PESCO must consider all government receivables as collectible. PESCO remit GST on all billings regardless of the fact whether the bills are actually collected or not from the company's distribution margin making a significant financial burden on company. Besides, TESCO (Tribal Electricity Supply Company) has to pay Rs 22,511 Million as wheeling charges in FY 2010 on the transportation of electricity through the PESCO network, while the payment of this amount seems impossible to pay by TESCO because of its own financial constraints.

Table 5: Energy Sales 2012-13 (Units in Millions)

Category	FY 2012-13		FY 2011-12	
Domestic	4084	57%	4047	57.3%
Commercial	550	7.6%	553	7.8%
Industrial	1889	26.3%	1777	25.1%
Bulk Supply	543	7.6%	521	7.3%
Tube wells	111	1.5%	142	2.0%
Others	20	0.3%	21	0.3%
Total	7162	100%	7062	100%

Source: PESCO's Annual Report 2012-13

The company has incurred Rs 31.04 Billion losses in year 2012-13 comparing to losses Rs 46.5Billion in year 2011-12 as in Table 6.

Table 6: PESCO Profit/Loss

	Total Revenue, In Billions	Total Cost, In Billions	Net Profit/Loss for the period In Billion
2012-13	100.998	132.041	(31.043)
2011-12	85.993	132.523	(46.530)

Source: PESCO's Annual Report 2012-13

PESCO still applies the old WAPDA accounting manual system which is obsolete in current accounting practices in Pakistan although, some efforts are being made in PESCO to update it. The USAID's PESCO Audit report compares US spending on maintenance expense with PESCO as US spends 7.98% compare with PESCO which spends 1.14%, but it indicates that total investment in total utility plant per kilometre is much higher in US cooperatives compared with PESCO. The US cooperatives average spending on total plant per kilometre of line is Rs. 2,622,327 than PESCO's Rs 500,852. The report also shares certain other fact of comparison in US rural electric cooperatives with PESCO for example; there are 8 consumers per kilometre in US while PESCO has 34 consumers per kilometre of line. The US cooperatives has consumer to employee ratios of 467:1 while in PESCO consumer to employee ratio is 141:1. This could be a possible window of performance to improve consumers to employee ratio for PESCO. The report estimates if consumer to employee ratio falls to 467:1 the saving of PESCO would raise to over 2.5 billion per year.

The US cooperatives has consumer to employee ratios of 467:1 while in PESCO consumer to employee ratio is 141:1.

PESCO collects bill payments from banks, post offices, and NADRA, which is then transferred to PEPCO/CPPA without deducting any distribution margin and then request for the remittance of funds to cater for operational expenses at PESCO. PESCO has not been raised consumer end tariff due to high court stay order which badly affects PESCO financial position. In February 28, 2012 Peshawar High Court stopped collection of PESCO's Fuel Adjustment Charges from consumer. On December 18, 2013 Peshawar High Court on 72 identical writ petitions filed against the imposition of FAC in the bills. The court in its decision declared FAC absolutely illegal and without lawful authority. If the tariff applied to the PESCO consumers, every consumer is likely to pay arrears in between Rs. 80000- Rs. 90000 per electricity connections. The report (2011) notes that PESCO pays taxes, fees to different local and federal agencies on the billed sales rather than receipts against billings. This scenario has rendered PESCO as an operation oriented entity with minimal system planning.

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There are certain factors which cause inefficiency in PESCO. It has no consistent practice to remove, clean and calibrate metres which lead to wrong bills although it is in process to replace with electronic metres. Replacement of electro mechanical metres is a very slow process, and its replacement with TOD/TOU metre is not yet completed, which creates problems in settlement of discrepancies. Bill distribution to consumers also has delays and sometimes it is delivered on or after due date. Delay in new connections force customers to bypass the application process. Besides, metre readers less frequently report faulty metres to its main offices. Bill preparation process within PESCO and data entry is manual data transfers which result in delays. Bill adjustment itself a complicated process initially mad by the SDO, and then approved by the

XEN and SE and the subsequent time lag in processing the adjustment leads to corruption and complaints. Bill payment also brings many problems and inefficiencies and requires many manual interventions. An effective and efficient customer care system is needed as the current practice at customer service level creates client frustration. There is no advanced metre reading technology and system is heavily relying on metre readers discretion in reading, manipulating the metre reading record, a defective metre are hardly replaced immediately and the preceding months are charged to consumers on average of the last 11 months. Sometimes, it could happen as collusion between the metre reader and consumer especially during peak season of summer. PESCO technical and commercial system lack applications of IT to ensure control, transparency and reliable information in the system. IT works as a part rather as a holistic strategy impeding organisation to achieve its goals.

2.8 Commercial management

Commercial activities in PESCO is headed by Director Operations and Director Customer Services at headquarter while in field offices, at circle level Deputy Manager Commercial (DCM), and Deputy Manager (MIS) and coordinate with SE, while at division level Revenue Officer (RO) responsible for commercial function. Director Customer Services reports to CEO. At divisional level, Revenue Officer performs four main functions in accounts section, general section, billing control section and Debtors control section.

Commercial activities within PESCO are performed activities like new service connections, mater reading and its maintenance, billing, customer service, disconnections to default consumers, use of modern technology in commercial management within PESCO and most importantly measures of theft control.

A very frequent complaint against power companies in Pakistan and particularly in PESCO is about provision of new service connections. Before, taking new power connection, applicants are required to submit certain documents and have to pass through many offices. Often, this delay promotes corruption. During survey for this work, many applicants complained about deliberate delay on part of PESCO officials. USAID's PESCO Operational Audit report (2011) shares October 2010 data that there were 29,958 ripe (paid) connections pending at PESCO. Besides, metre reading is another important activity in PESCO commercial management. There is a lack of use of modern technology in this area, therefore, a number of complaints in PESCO stems from wrong metre reading along with delay in bill delivery.

Manual and non-automated electro mechanical metre reading also creates room for metre tampering. In some places, metres are installed at very height and it becomes very difficult for metre reader to accurately record reading. There is no arrangement to inform consumers through using mobile technology which could possibly be an alternative option to improve customer relationship. Besides, electro mechanical metres are also in use in many places and not yet replaced with electronic metres. Revenue offices are not yet fully computerised. If a bill has some discrepancy and consumer wants to adjust it, Sub Divisional Officer adjusts it and then finally Superintending Engineer (SE) approves it. In a way SE, is responsible for every activity including operation, commercial, technical, HR and legal issues at circle level. Keeping in view

the busy schedule, SE is engaged in disconnection of defaulted consumers; maintenance of infrastructure spread over a huge geographical area, sometimes it become difficult for consumers to approach SE. Customer service has poor outreach to consumers and has not been taken an important activity at the part of company.

Power theft is very common in PESCO, highest among in rests of DISCOs. In the Peshawar suburban areas power theft is as high as 90% while the same situation is also observed in Bannu circle. Adjoining tribal areas also have high theft ratio. All commercial activities could be connected and integrated with computerisation, and still there is no ERP working within company, although USAID is working on it with PESCO.

PESCO has three main documents in use for its commercial activities: (1). Commercial Procedures 2000 (2) Consumer Eligibility Criteria 2003 and (3) Consumer Service Manual 2010. New connections for different consumers follow different route; domestic and commercial submit their application at local subdivision level while the industrial application requires submission at PESCO headquarter. After submission of application, consumer sites are surveyed and then after paying the demand note, connection is installed.

Although, there is a need of regular evaluation of metre reading which is mainly ignored. Besides, metre reader records accuracy is not confirmed which works as a base for the whole organisational function. Many times, consumers refuse to pay bills in time due to wrong bills which is a lifeline for PESCO operation.

2.8.1 Brand Management

PESCO has not effectively branded its name after WAPDA's unbundling. People still recognise PESCO as WAPDA even its headquarter in Peshawar is officially known as WAPDA house. WAPDA has developed a perception in general public as a corrupt company and in local *pashto* language, people named it as *WA-PA-$_b$ADA* (meaning: steal and pocket it). PESCO employees introduce themselves as WAPDA employees and their offices at sub division level also identified as WAPDA offices. There is no concerted effort to re-brand the company as a decentralized power distribution company for Khyber Pakhtunkhwa with an autonomous administrative structure.

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2.8.2 Effective strategic management

Effective strategic management within each organisation is the only option within companies to survive and remain profitable for a longer period. Strategies flow from the vision and mission of the organisation which are further translated into policies and procedures to materialise organisational strategies. There are certain wasteful strategic signposts within these companies. For example PESCO has adopted the following slogan.

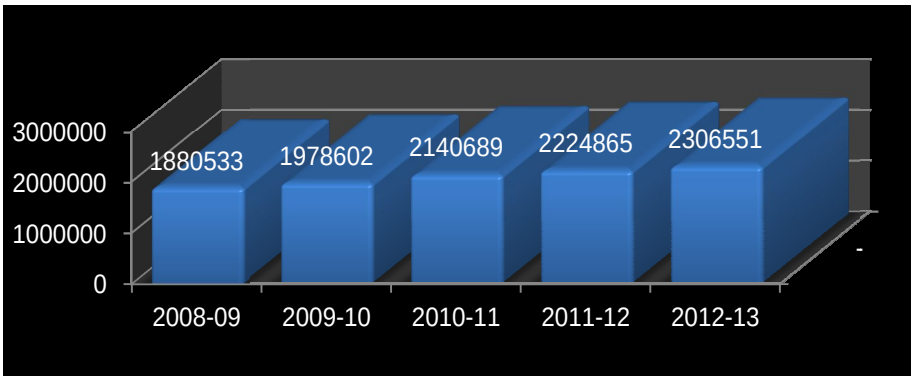
"Powering Prosperity through Agriculture and Industry"

Company's statistics reveals that majority of customers are domestic (56% power consumptions) while PESCO is sailing against the market reality. The company is more concerned about prosperity ignoring its own survival which is at stake if government denied paying its liabilities to the company where the company is incurring 2.5 Billion losses a month. Charity starts at home. The company itself is facing heavy losses and it has wrongly fixed its market in agriculture and industry. Workforce in an organisation translates such slogans into meaningful company's policies and priorities in decision-making. Therefore, such slogan needs to replace with market oriented statement focusing on lifelines of PESCO revenue, or whatever makes sense to keep the company surviving.

3 Islamabad Electric Supply Company

Islamabad Electric Supply Company is a state owned company supplying electricity to Federal capital and its adjoining areas. The company major revenue comes from domestic consumers. The company also supplies electric power to AJK government power authority. IESCO Service covered Area 23,160 Sq. km (Islamabad district and four adjoining districts of Punjab province namely Rawalpindi, Attock, Chakwal and Jhelum). IESCO has boundaries with GEPCO, FESCO and PESCO.

Figure 3: Number of Consumers Year Wise



Source: IESCO, Electricity Demand Forecast based on Power Market Survey 2013-2023, Joint Report IESCO and NTDC

IESCO has lowest line losses of 9.44% in fiscal year 2013. IESCO covers 11% (number of customers) of the electricity market in Pakistan, 12% of total energy consumption and 11% of revenue, while the HT and LT network comprises 8% and 12% of the national length (IESCO Operational Audit Report, 2011). IESCO has incurred PKR 11.09 billion losses in 2011-12 and PKR 4.5 Billion in 2012-13. IESCO is comparatively contributing fewer losses than rest of DISCOs IESCO is facing financial constraints hampering investment in both distribution system assets. It has also badly affected employees' equipment which results in many accidents at workplace.

IESCO is performing well compared with rest of other DISCOs but there is still need for further improvement. For example, activities like metre reading, new connection, entire revenue cycle is still manual and fragmented. The system employed in 70's is still in practice, although, there are certain initiatives to modernise the system.

3.1 IESCO's initiatives

1 IESCO carried out Consumer Census to address process deficiencies with the help of fact based management.
2 IESCO has achieved 100% gross collection efficiency of private customers in FY 2010-11 and lowest T & D Loss in the country.
3 IESCO has also undertaken initiative to plug loopholes in metering and billing with Automatic Metre Reading (AMR), thereby dispensing with manual entries.
4 IESCO has also undertaken initiatives to implement Enterprise Resource Planning program which enables integrating network, customer and asset management by leveraging geo-spatial information, undertaking remote network sensing and operation in real time. For this purpose USAID is also providing Technical Assistance.
5 In FY 2011-12 with help of international donors a project of over 6 billion was started for System Up gradation.

6 IESCO has also worked over to implement Ledger Management System, an automation program for accounts and inventory management.
7 GIS-based system is also under progress to undertaken complex engineering analyses, create network designs, generate Bill-of-Materials and manage `trouble calls' at the Centre.
8 IESCO has installed TOU metres as per directives of NEPRA for those consumers having load above 5kW.

3.2 SWOT Analysis

Strengths

- Company's major revenue contributing customers are combined into two main cities: Islamabad and Rawalpindi
- Covering mainly urbanized area
- Islamabad has underground electricity distribution network, therefore, it has less incidences of hook (*Kunda)* in capital city
- As capital city, there is a presence of well qualified work force, therefore, IESCO could hire competent and qualified employees
- Federal government ministers, Prime Minister Secretariat and regulatory bodies' heads including Supreme Court judges reside in Islamabad; therefore, decision making is fast and effective.

Weakness

- IESCO depends on sole power supply from national grid
- IESCO has still the old government organisation like culture
- In past there is no up gradation in its network system
- The company is in financial losses and has less amount to invest in system up gradation
- Because of losses, banks are not ready to invest in the company

- Although, at operational level professional workforce is available; but there is dearth of leadership at the top.

Opportunities

- IESCO can be efficient by improving employee to customer ratio
- IESCO can minimize its transmission and distribution losses and generate profit
- IESCO can improve its image in customers and employees as well
- IESCO can strengthen its decision making and improving its governance
- It has the opportunity to shift from 'one supplier to many energy suppliers model

Threat

- Government's undue intervention in IESCO's routine operation could threaten its performance
- Transmission and distribution losses could jeopardise the existence of company as an independent entity
- If government stopped financial support, the very existence of the company will become at stake
- There is a growing discontent among customers and they are looking for some alternative sources for power supply which could possibly threaten IESCO

3.3 Human Resource Management

Company is still relying on the archaic HR practices of WAPDA and lack modern approaches to HR policies, procedures, etc. The job description at IESCO lacks well defined responsibilities and certain management positions lacks clear division of work and match of accountability with authority. HR policies about appointment, promotion, and placement are not based on merit rather it is on quota or seniority. Comparing wages with other commercial organisation like PIA or PTCL, it has very low salaries package for employees therefore, it has become a reason of not promoting a culture of modern forward looking entity. USAID's IESCO Operational Audit report (2011) suggests that management in IESCO is unclear whether it is answerable to the BoD, PEPCO or MWP. There is also political intervention at operational level. Due to proximity to Islamabad, IESCO faces much political intervention than other DISCOs.
The report identifies that the vision of top management does not reflect the work practices at operational level. HR practices in IESCO are like public sector organisations with life time employment. The purpose of public sector bureaucracies remains to keep status quo in their job, and the same is happening in IESCO. IESCO is also plagued with overstaffing and under-resourced with less training. In general, employees within the company lack strategic direction.

The utility has policy of reserving 30% quota for employees' dependents, which is huge figure and such recruitment badly affects the performance of utility and inhibits the process to attract competent and quality candidates. There is a need to adopt international best HR practices to reduce staffing level; the extra staff work could easily be outsourced. Regarding health, safety and environment issue in IESCO, there are many fatal and non-fatal incidences in the utility, which could be attributed to the unsafe practices and deviation from standard operating

procedures in operation. Besides, there is poor arrangement for the training of employees and consumers for safety and health.

There are certain critical success factors which include overcoming resistance to change, development of leadership and applying appropriate resources for improvement. It also includes appropriate use of technology and redefining business processes; fostering a corporate culture that embraces change focused on employees' recognition, reward and motivation (IESCO Operational Audit Report, 2011).

3.4 Operation Management

Operation management of a power distribution company could be categorised in four components– transmission system management, distribution system management, mapping and power flow analysis, and distribution standards. IESCO serves 2.3 million consumers in FY 2013. IESCO Operational Audit Report (2011) shows that IESCO has over 22,053 km of 11kV HT and 24,712 km of LT distribution lines. Peak demand of IESCO in the year 2012-13 was recorded as 1276 MW and purchase were 8571 GWh with annual load factor of about 77% with 5.16% annual growth in consumption (NTDC's IESCO Electricity Demand Forecast, 2103). There is no systematic arrangement for feeder mappings. Each subdivision has its own single line diagram of feeders and has no geographic maps in the company (IESCO Operational Audit Report, 211). Like the rest of other discos, IESCO lacks direct input from Geographic Information System mapping data. IESCO has underground distribution network making it a unique feature among rest of DISCOs. This system is fifty years old and in poor conditions and vulnerable to theft and public hazard. Construction and maintenance work practices are also inconsistent and stopgap approaches suffer from lack of available equipment and transportation access. Therefore, employee safety is at high risk with frequent equipment failures impacting financial performance of IESCO. In year 2009-10, eighteen linemen lost their lives while performing company's duties, which shows that adoption of safety measures could save many precious lives. The company needs effective mapping with Global Positioning System (GPS) to locate facilities in the field and further transfer it to Geographic Information System (GIS), it would help the company to use advanced analysis software package.

Operation subdivision exists at IESCO which is responsible for many activities such as metre installation, metre reading, disconnection of defaulters, and repair of faults. Although there are certain procedures and policies which exist for almost all tasks including safety and health but staff motivation to comply with it is poor. The available tools are in poor condition along protective equipment such as safety belts and grounding sets.

USAID has initiated installation of Automated Reading Metres with support of USAID in sector G-9 in a pilot project. Those areas are targeted where the ratio of power theft is high to accurate access to consumption data. These metres will transmit metre readings via GSM/GPRS using computer technology without human involvement. USAID has also planned to initiate this project in five other distribution companies.

3.5 Financial Performance

Public sector organisations are poor in payment to IESCO which is 83.2% while private client has paid 98.4% in FY 2010. Besides that IESCO also supplies electricity to Azad Jammu Kashmir to the tune of 10% of its total sale. It would be appropriate that CPPA sell directly electricity to AJK using IESCO as supply channel. Another common problem with IESCO like other DISCOs is the payment made by IESCO of GST which it pays on bills which are not actually collected. IESCO has recently improved its Audit Manual.

The financial problems associated with IESCO rests on its relationship with government clients. There were also payment issues with Azad Jammu Kashmir government of IESCO. Implementation of Enterprise Resource Planning (ERP) is important for effective financial management. . IESCO has significant issue with its most facilities owing to the lack of insurance.

IESCO's fleet contains 600 vehicles, in which 200 are 20 years old, while the company suggests vehicle replacement every ten years which are rarely replaced (IESCO Operational Audit Report, 2011). Besides, IESCO has not insurance policy for all of its facilities, although few grid stations and few vehicles are covered under it. The report compares IESCO with a US rural electric cooperative; it shows that IESCO spends 1.02% while the latter is spending much higher which is 7.98% as maintenance of electric system. US utility has consumer density average 8 consumers per kilometre while IESCO has 45 consumers per kilometre of line. Consumers to employee ratio of US utility are 467 per employee while in IESCO it is 154 to 1. The report forecasts Rs. 1.9 billion savings per year if the consumer per employee ratio is down to the ratio of US utility.

Cash received IESCO from various pay points including banks, post offices etc. This amount is then transferred to IESCO central bank account. IESCO then makes periodic payments from its central bank accounts to PEPCO and CPPA after deducting distribution margin and applicable taxes, which is then paid to local, provincial and central government authorities. IESCO has reportedly transferred default amount to the paying consumers who are paying their bills. In year 2009-10 IESCO transferred default commercial and industrial bills worth 6 Million to Benazir Hospital Rawalpindi (Noorani, The News; June 8, 2013).

Investment projects of DISCOs go through a process, initially filed with the Planning Commission (PC), Central Development Working Party (CDWP), and Executive Committee of the National Economic Council

Investment projects of DISCOs go through a process, initially filed with the Planning Commission (PC), Central Development Working Party (CDWP), and Executive Committee of the National Economic Council (ECNEC) for approval without consideration of funding status denying the market mechanism of project feasibility and more on political ground.

Being a public limited company, the financial reports should be available but were not found on websites. Annual reports and quarterly reports are also not available on websites.

3.6 Commercial management

Sales wise domestic consumers account for 44%, commercial for 12% and industrial consumers for 22%, bulk supply consumers over 20% and agricultural consumers (tube wells) is 1.2%. (Source: PEPCO Report on DISCOs Performance Statistics for the year ended June 30, 2010).

Table 7: IESCO Customers Mix

No. Customer Class Mix %			
No	Description	Value	%age
1	Domestic	1,738,987	84.45%
2	Commercial	298,237	14.49%
3	Industrial	12,392	0.60%
4	Bulk Supply	891	0.04%
5	Other	1437	0.07%
	Total	2059207	100

IESCO CUSTOMER DISTRIBUTION AS OF 30TH JUNE 2010
Source: PEPCO Report on DISCOs Performance Statistics for the year ended June 30, 2010

The ultimate goal of any business utility is to enhance its revenue and satisfy its customers. Business processes must be directed to customers, who are paying for the products and giving life to business like installation of a new customer information system, corporate reorganisation to streamline customer service management, adapting innovative fool proof approaches to metre reading and metre checking and replacement. Regarding communication organisation is following the conventional methods for example manual transfer of information through inter office circulars. The usage of ICT in customer services is rare especially in state owned power companies. Public outreach is usually performed by PEPCO thus inhibiting IESCO to build its corporate image.

IESCO needs an integrated communication and outreach strategy viewing the power sector problem as holistic rather as part. It needs to train the frontline staff in intimate and empathetic customer oriented relationship to build trust. In some areas, IESCO has also shown some signs of improvements. Pakistan Credit Rating Agency (PACRA) has assigned long term A+ rating (single A Plus) and short term A1 (A one) to Islamabad Electric Supply company Limited denoting low expectations of credit risk.

Like the rest of DISCOs in Pakistan, many problems could be easily attributed to 'Metre Reading' practices. Many times metre reader is unable to read metres due to many reasons leading to corrupt practices. Plans are in pipelines to replace all electromechanical metres with digital. In total 6000 metre readers require 24 hours a day for bill preparation (IESCO Operational Audit Report, 2011). The time allowed to pay bill is another issue as bill delivery is a human activity and the bill distributors many times failed to read in time. IESCO has also installed Advanced Metre Readings (AMRs) to determine transformer loss.

There is a dire need of improvement in metring technology by switching from electromechanical to electronic metres along metre testing, repair and calibration. Implementation of fully integrated computer information system is important for new accounting, data collection and transfer and bill procedures along consumer census. Power Distribution Companies (DISCOs) are cash starved entities and the defaulters list also include President house, Parliament house and other important public sector entities and they are defaulters of 1.5 PKR Billions as in May 2013.

Table 8: IESCO Profit/Loss

	Total Sales Revenue, In Millions	Total Operating Cost, In Millions	Profit/Loss In Million
2012-13	88, 247	92, 006	(4,499)
2011-12 *	76, 266	87, 223	(11, 093)

Source: * IESCO's Tariff Petition to NEPRA for the Year 2012-13

4 Karachi Electric

4.1 Introduction

KE is providing electricity to more than 20 million people in Karachi. It is the oldest power company incorporated in 1913 under the Indian Companies Act 1882. It has an important role as Karachi is the hub of business activities in Pakistan and as a port city. It was nationalised in 1952; in 1998 when the company was facing immense losses; Pak Army took its administrative control and brought certain reforms in it, finally privatised it in 2005. In 2008 Abraaj Capital invested in the company and took its administrative control. KE holds 72.58% share, government owns 25.66% and the public float is 1.76%. The new management of the company is trying to realign the company on modern organisational structure and has changed many traditional ways of doing things. The company has faced many challenges particularly after privatisation. The company was consistently facing line and financial losses making the company the least attractive for investment. The peculiarity of KE from other state owned distribution companies is its vertically integrated energy structure. The company has its own power generation plants and also acquires electric power from National Transmission and Dispatch Company under its agreement with the Ministry of Water and Power. The company has put its efforts to reforms its processes particularly since 2008 and has also gained some improvements in many areas. The most important achievement is the profit it makes in the last two years, making it the only profit earning Mega Company with its strategic importance as part of the port city Karachi. Table 9 shows Karachi Electric's key statistics. KE has 2.5 Million customers base, KE's jurisdiction is divided into four regions, which is further divided into Integrated Business Units (IBCs), Region 1, 2, 3 and 4 have 7, 6, 8 and 7 IBCs respectively. The basic purpose of IBC is to cover the gap between technical and commercial activities of the company.

Table 9: KE's Statistics

Installed Capacity	2341MW
Customer base	2.5 Millions
Residential Consumers	1.8 Millions
Public Sector Consumers	13,000
Grid Station	62
Industrial Consumers	60,000
Commercial Consumers	6, 00,000
Area Covered	6500 Sq. km
Employees	10, 603
Operational Regions	4
IBCs (Integrated Business Centre)	28

Source: KE's Annual Report 2012-13

The company has 2341 MW installed capacity of electric power to cater Karachi city power requirement. The company is showing improvement in its line losses with consistent decrease in the last four years. Like other parts of the country *Kunda* culture is also common in Karachi, KE has found Aerial Bundled Cabling (ABC) as a mean to control power theft and illegal use of electricity. The company is also working to introduce Smart Grid System to reduce transmission and distribution technical losses and include remote service disconnections and increase in revenue with minimum outage response time. The company has also introduced e-billing and other such measures.

KE is the only vertically integrated power utility in Pakistan which generates, transmits and distributes electricity. It also provides energy to industrial, commercial, agricultural and residential consumers in Karachi and its surroundings licensed areas. There are over 2 million connections catering needs of population over 20 million people; KE serves the largest metropolis in the world (KE's Annual Report, 2013). It is also listed in all three stock exchanges in Pakistan. Karachi Electric has generated 162.816 Billion revenue in FY 2011-12 and 188.999 Billion in FY 2012-13.

4.2 History of KE

In 1996, there was steep deterioration in KE and it was realised to hand it over into private hands. In this regards, to improve its health, Pakistan Army took over management control of the company during 1996-2005 to stabilize its operational and financial health. And consequently, on 29 November 2005 with a 71% transfer of ownership to a Saudi consortium Al Jomaih Group of Companies and Kuwait's national Industries Group and 26% stakes retained by government. But the private company failed to improve its financial and operational health. In 2008, Saudi Al Jomaih proposed potential stake in KE to Abraaj Capital a Dubai based private equity firm. It was finalised in October 2008 at US$ 361 Million along full management control. Abraaj brought 41 senior managers to address the management affairs at KE.

4.3 KE Initiatives

1. Voluntary Separation Scheme (VSS) costing PKR 6.0 billion (US$ 67 million) for 4,459 non-core staff. 3,400 staff opted for VSS, remaining retrenched.
2. Outsourcing of 4,459 non-core positions despite resistance and violence faced. Non-core staff successfully outsourced.
3. 1,022 employees dismissed/ terminated across all cadres due to corruption, theft and misconduct.
4. 360-degree performance reviews initiated. High potential employee program launched.
5. Career progression plan (Karkun to Lineman).
6. Placement of over 20,000 retro-reflective warning signs on electric poles in public fatality prone areas.
7. 45% reduction in employee accidents, 36% reduction in assets damaged.
8. A waste-to-energy project utilising biodegradable matter to generate up to 22 MW electricity and organic fertiliser. Addition of 50-100 MW wind power in the overall generation mix through off take agreements. 10 MW in aggregate of off-grid solar-based projects in far-flung areas within the KE-licensed domain exploration.
9. National CFL programme in collaboration with PEPCO: distribution of 2.7 million CFLs amongst domestic consumers - saving approx. 107 MW, in close liaison with government stakeholders (ADB, PEPCO, MoWP and DISCOs) and in-house departments.
10. A project company, Karachi Organic Energy Limited (KOEL) has been incorporated to establish a Biogas Power Plant at Landhi Cattle Colony which will utilise cattle manure and organic food waste as the feedstock to produce 22 MW of electricity in two phases (11 MW each). KE, AMAN Foundation, IFC and GE are the prospective shareholders of this company. The International Finance Corporation (IFC), a member of World Bank Group, signed a joint development agreement to co-develop this waste-to-energy project.
11. Joint Development Agreement signed with Oracle Coalfields for a 300 MW power plant at Thar Block II; pre-feasibility study of power plant has been completed. KE and Sindh Engro Coal Mining Company have been pursuing the development of 600 MW mine-mouth based power plant at Thar Block II.
12. Mobile Metre Reading: To digitally record metre readings, which would be transmitted wirelessly from the field for quick processing, so as to eliminate time wastage and human interference.
13. US$ 1 billion fresh debt/equity injected from 2008 to 2013.
14. Load shedding duration significantly reduced - 60% of KE's network experiences either no or maximum 3 hours of load shed.
15. Coal Conversion Karachi Biogas Hydro Power Renewable Energy Rebrand

16 Forming of K-Energy (Pvt.) Ltd. by BEEGIL (the investors), to whom KE shall lease its existing units 3 and 4 of Bin Qasim Power Station 1 under a long-term lease agreement for which the shareholders' approval has already been obtained by convening an EGM on August 23, 2013. K-Energy shall function as an Independent Power Producer (IPP) which shall sell power to KE and a Power Purchase Agreement is currently under negotiation.

17 House, KMC will provide land in the vicinity of Landhi Cattle Colony for the establishment of the project and will also assist in the supply of feedstock for the power plant.

18 KE has entered into an MoU with the Laraib Group, with a view to procure power from 640 MW Azad Pattan Project, and 250-300 MW Ashkot Hydropower Project.

19 To digitally record metre readings, which would be transmitted wirelessly from the field for quick processing, so as to eliminate time wastage and human interference.

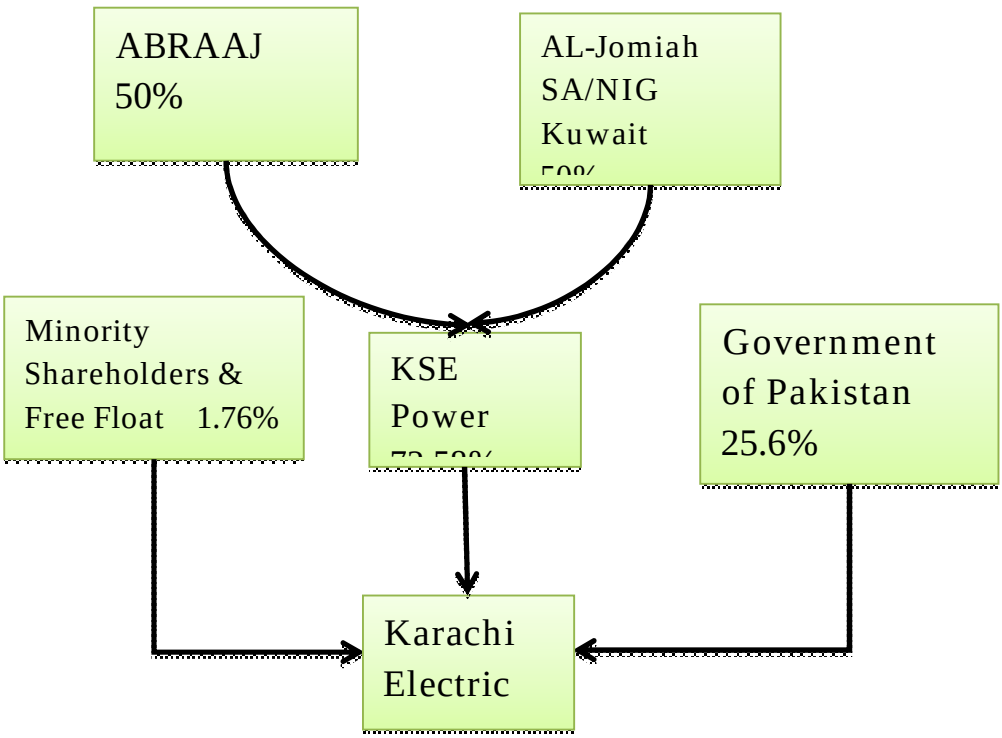
20 Pictures of faulty metres to be uploaded through customised mobile programme.

21 A company-wide programme of providing rebate/token payment to its consumers has been initiated so as to provide them with an opportunity to board the good consumers' category and clear out their long outstanding dues.

Source: KE Annual Report (2011, p. 61)

4.4 Governance

Figure 4: KE Ownership Structure



Company also has Whistle Blower Policy in which employees are connected with its leadership through, email, hotline etc. to inform unethical practices as prescribed by the Company's Business Ethics Committee (BEC).

4.5 SWOT Analysis of the Organisation

Strengths

- In line with its vision to deliver uninterrupted, safe and affordable power to its consumers, KE, over the last four years, has added 1,010 MW of fresh generation capacity that represents a 49% increase in its capacity and results in 23% improvement in its fleet efficiency. State-of-the-art 560 MW BPQS-2 power plant.
- PKR 172 billion market capitalisation.
- Being a monopoly, KE has a base of 2.5 million customers, which includes the biggest industrial base of customers in the country.
- Declining transmission and distribution losses. T&D losses down to 27.8%.
- Enhanced brand image, positive gain in brand equity. KE is now within the healthy brand zone as per AC Nielsen's Brand Tracker.
- Restored relationship with all key stakeholders and open communication platforms
- Ideal administrative capacity, reached though right-sizing and putting the right person at the right job, has increased the overall efficiency of the organisation.
- Strong management control and cultural transformation towards a value-driven organisation.
- One of the largest distribution networks in the region, spread over 6,500 kilometres.
- Investment in Information Technology has enabled KE to efficiently manage the flow of information, leading to better decision-making and service delivery capability.

Weaknesses

- Electricity theft still plagues the entire city - with one-third of Karachi having AT&C losses of over 60%.
- One of the largest distribution networks in the region spread over commercial, residential, industrial and agricultural areas of Karachi and some parts of Baluchistan. Rain, theft issues and other unforeseen weather-related problems still make it a challenge for us to maintain optimum levels of service despite regular maintenance and system up-gradations.

- Despite the incredible progress shown by KE in terms of service and load shed management, the negative brand equity of the past continues to overshadow the perception of the customers.

Opportunities

- Growing base of customers and latent demand potential within good customer segments.
- Thar coal, LNG import and other cost-effective fuel options.
- Renewable energy projects.
- Energy sector restructuring and policy alignment by the government.
- Gas prioritisation for the energy sector.
- Resolution of Circular Debt by the government.
- Right fuel mix for power generation units, bringing down the cost of generation.
- Efficiency-driven projects across generation, transmission and distribution.
- Continued focus on organisational development.

Threats

- Law and order situation, no go areas and undue strikes result in less operational days, affecting the recovery ratio and service delivery capability of the organisation
- Law and order situation also directly impacts the organisation as KE offices and employees are attacked in case of prolonged outage or theft/hook connection (*kunda*) removal exercise.
- Weak legislation and ineffective law enforcement to combat electricity theft and non-payment.
- The Circular Debt issue adversely affects KE's cash flow management, which hampers fuel management capacity and, hence, the overall organisational efficiency gets affected.
- The sector-wise non-alignment for gas prioritisation by the government results in regular gas shortages. Gas shortages and resulting dependence on furnace oil affects the optimal fuel mix and plant efficiency. It also puts undue cash flow constraints on the organisation.
- Increase in fuel prices has a direct impact on our cash flow and cost of generation.
- The periodic increases in electricity tariff structure regulated by NEPRA, directly affects the affordability of the common man, which in turn puts pressure on recovery ratio and increases electricity theft ratio.
- Lack of discipline and accountability among state-owned enterprises vis-à-vis payment of electricity dues.

Source: KE annual report 2012-13 (2013, p.79-80)

4.5.1 Human Resource Management

Karachi Electric has focused particularly on its human resource as the company has been restructured its workforce from 17,436 (2008) to 10,603 (2012). The company goal is to develop a leaner efficient organisation. The company has adopted performance based appraisal, and also outsourced non-core functions. Training calendar is published after TNA (Training Needs Assessment).

4.5.2 Operation Management

KE achieved gross dependable generation capacity of 2341 megawatts (KE Annual Report, 2012-13). Newly constructed prime power station Bin Qasim Power Station N. II on Combined Cycle technology has added 560 megawatts additional energy to its capacity. During January 2009 to March 2011, the company improvement plans of existing fleet efficiency by 10 per cent through replacement of old machines with highly efficient machines, with an overhaul of Bin Qasim Power Station No. I. Besides, reliability of the system has been improved by reducing unit tripping by 33 percent and by 31 per cent reduction in the loss of un-served energy. There are many developments after Abraaj's taking control of KE, 635 MVA have been added to KE's transformation capacity, construction of ten new grid stations, installation of 16 new transformers at existing grid stations. 31.5 kilometre new transmission lines have been also added enhancing the network from 1186 km to 1218.5 km, along rehabilitation of 124 kilometres of extra high tension lines. Besides, 18 new circuits to the network has been added making total number of circuits to 118. It helps the company to reduce transmission losses from 4.19 per cent in Sept 2008 to 1.45 per cent in November 2011.

Theft of electricity transmission wires is a huge financial loss to KE which also hampers company's operation. It is blamed that company technical staff is involved in such theft. There is also incidence of high voltage lines collapse of wires which could be caused by the illegal *kundas* connections. In some places, company also replaced aluminium wires with copper one to minimise wire theft. Generation and distribution have its importance in the performance of a company. For example, National Electric Power Regulatory Authority has found that the weighted average cost of electricity jumps from Rs. 7.97 per kilowatt hour at the generation stage to 11.95 per unit at the distribution stage- an almost 50% rise due to complicated and massive transmission and distribution system in Pakistan. This theft has a strange story in Pakistan, instead of catching the culprits, power companies force people who honestly pay their bills to give the theft amount with incorrect bills, and increase in tariff. KE has also working on state of the art 'Smart Grid' project which is a strategic initiative towards losses reduction and improvement in monitoring along Distribution Network Management System to improve operations and customer satisfaction and also to reduce network outage response time for operational efficiency.

> Karachi Electric as a policy has separated high electricity theft areas from low power theft areas and then incentivizes low power theft areas with less load shedding and vice versa.

Karachi Electric as a policy has separated high electricity theft areas from low power theft areas and then incentivizes low power theft areas with less load shedding and vice versa, which resulted in uninterrupted power supply close to 50% Karachi. The difference between state owned DISCOs and KE in its operation is the political factors, where SOEs (DISCOs) are prohibited from this kind of discrimination in operation. Such practices where people do not pay taxes are offered free lunch in shape of free electricity.

4.5.3 Power Generation

The major problem Karachi Electric facing in generation is insufficient supply of gas. Government has promised to KE of supply 276 million cubic feet per day (MMCFD) gas but in actual supplying only 80 MMCFD gas. It results in power generation much lower than the installed capacity. The non-availability of gas has become a discouraging factor to KE to attract private investors in power generation.

KE has planned/initiated several projects where efficiency of existing power generation would increase 17 percent through addition of new efficient plants and major overhaul and maintenance of units at Bin Qasim Power Station (BQPS). KE is also successful in bringing down transmission losses from 5 percent to 2.5 percent. The KE management blamed low gas supply as a cause of load shedding although they have most efficient power plants and capacity in the country. KE has been working to establish coal fired power plants up to 1000 MWs. While Bright Eagle Enterprises Group Limited a Hong Kong based Company is collaborating to convert 1260 MW Bin Qasim Power Plant- I from residual fuel oil to coal under a joint Development Agreement. KE has also signed a joint Development Agreement with Sindh Coal Energy Limited and Oracle Coalfields PLC (Oracle) of UK to establish a coal based power plant and also tapping the potential of Thar Coal reserves for power generation in Block VI Thar Coal Fields having an initial capacity of 300 MW and potential upside of 1100 MW.

4.5.4 4.5.2 Aerial Bundle Cable (ABC)

A step taken by KE is conversion of Pole Mounted Transformers (PMTs) and consumer connections in some parts of the city into high tension Aerial Bundle Cable (ABC) which pre-empts illegal *Kunda* connections and exposed naked copper wire in high losses areas where ABC has been successfully rolled out on 49 PMTs in areas of Gulshan e Iqbal, Garden and North Nazimabad. There are many advantages of using Aerial Bundle Cable like control of losses due to illegal hook connections, prevention of theft of copper conductor, prevention of fatal accidents, minimization of tripping, higher insulation and moisture resistance and corrosion, long service life and many other advantages due to smaller in diameter and lower in weight.

4.6 Financial Performance

The company has shown an encouraging trend in the last five years. Company has earned profit for consecutive two years, while posting PKR 6.7 Billion in FY 2013. There is also another encouraging indicator is its declining Transmission and Distribution Losses which is currently 27.8%. The company took many steps to overcome line losses which contributed to make KE a profitable organisation.

Table 10: KE's Earning per Share

In Rs.	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Earnings Per Share	(1.22)	(1.18)	(0.74)	(0.44)	0.11	0.26
Total Assets (in Billions)	92.98	131.94	207.63	236.35	272.58	279.23

(Source: Karachi Electric Annual Report, 2012-13)

Table 11: Year Wise Table

PKR Billion	FY 09	FY 10	FY 11	FY 12	FY 13
EBITDA	(6.9)	(3.8)	3.5	17.4	26.7
Net Profit (Loss)	(15.5)	(14.6)	(9.4)	2.6	6.7

(Source: Karachi Electric Annual Report, 2012-13)

KE report reveals that company has significantly decreased its transmission and distribution losses, efficient generation of electricity and full operation of steam turbines of BQPS II, which significantly increased to 37.1 percent from 34.2 percent. The key financial problem with KE is circular debt by the federal and provincial government, in which Karachi Water and Sewerage Board and City District Government Karachi has Rs. 24.6 billion and Rs 6.5 billion respectively. The company is facing high default from Public Sector Consumers (PSC), the recovery ratio excluding PSC stood at 89.2%. KE has undertook a number of measures to recover outstanding bills like rebate/amnesty scheme etc. as on 30 June 2013 total receivable stands at Rs. 33, 127 million dues from PSC. In which government and autonomous bodies, Karachi Water and Sewerage Board, and City District Government Karachi have Rs. 23047 million, Rs 6064 million along surcharge of Rs. 1950 million, Rs 857 million respectively.

4.6.1 Term Finance Certificates

In July 2012, KE declared the first ever utility sector bond, PKR 2 Billion Azm Term finance certificates, which took six weeks for entire subscription, a success in Pakistani context.

4.6.2 Investment and profit

Abraaj introduced many reforms within KE and ultimately touching a remarkable achievement and an important milestone to become a profitable entity. The company has invested USD 1 billion equity investment during 2008-12 along major overhauling of technical resources, capacity building and efficiency focused step along an effort for effective management which enabled the company to earn profit an unprecedented event in the power sector in Pakistan. The company earned PKR 2.62 Billion in year 2011-12 and PKR 6.729 Billion in year 2012-13. The company has arranged funds from

International Finance Corporation (IFC) and Asian Development Bank (ADB) have converted portion of their debt into ordinary shares.

different sources e.g. IFC, ADB and OEKB and others. It enabled KE to improve its efficient generation capacity over 100 megawatts along improvements in transmission and distribution capacities.

Profit and Loss account since FY 2008 to FY 2013 is encouraging.

Table 12: KE Profit/Loss

In Rs.	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Revenue	100%	127%	155%	195%	243%	282%
Expenditure	100%	120%	118%	157%	144%	152%

Source: KE's Annual Report 2012-13

KE has embarked loan agreements with International Financial Corporation (IFC), Asian Development Bank (ADB), and Oesterreichische Kontrol Bank Austria. It was taken to improve power generation, transmission and network improvement projects. International Finance Corporation (IFC) and Asian Development Bank (ADB) have converted portion of their debt into ordinary shares indicating the confidence of these financial institutions on the company.

4.7 Commercial Management

Karachi Electric has started online bill payment as round the clock service. Twelve national leading banks are made part of this facility. It includes access to past bills, historical usage, average usage and graphical usage information. It also facilitates its customers to make payment online by Internet Banking, Phone Banking, Mobile Banking, Easy Paisa, UBL Omni and NADRA Kiosks.

Karachi Electric is 2nd largest private entity in Pakistan with an annual revenue 163 Billion in 2011-12 and 3rd largest company with total assets of Rs 273 billion. KE has invested USD 1 billion in KE including around USD 550 Million in shape of equity and funding from IFC, ADB and OEKB in which IFC and ADB are also shareholders in the company. The company has added more than 1000 MW new capacity with new General Electric (GE) equipments. KE has invested 560 MW in an efficient power plant at Bin Qasim with the cost of USD 450 million. KE has also received ISO 9001 certification for its new 220 MW combined cycle power plant (CCPP) at Korangi. Asian Power Magazine awarded KE best fast track project and best plant in the region for its new 180 MW GE Jenbacher Gas Engines Project. The company has spent a substantial amount in SAP/ERP implementation in the company. KE has successfully rolled out SAP Industry Solutions for Utilities in Defence and North Nazimabad IBCs. In fiscal year 2012, approximately 68% of total customer revenue of KE has been transformed on SAP ISU.

Karachi Electric has added more than 1000 MW new capacity with new General Electric (GE) equipment.

The company has taken initiative to remotely managed smart metres at customers' premises integrated with IT systems to manage the information. This will enable the company to remotely monitor energy flow with facilities like loss identification, remote billing, and remote

disconnection and will result in reduced energy losses and improved recoveries. KE load management strategy has ensured scheduled fixed hour load shedding which resulted in uninterrupted power supply to more than 50% of the city. The company is also working to setup 'waste to energy' power project which will produce approximately 22 MWs of electricity; it will also produce 100,000 tons of organic fertilizers annually. The company has Environmental, Social and Governance (ESG)[1] value creation as an essential part of KE's economic value creation model. The company has secured a level 'A' rating from the Global Reporting Initiative (GRI) for its integrated Sustainability report for the year 2009-12. Due to low gas supply KE has reduced power generation by 7.92 percent in 2013. The sale of electricity units increased up to 28.65 percent to 10.942 million units in the current year as compared to 8.5 million in the period 2004-05 (Recorder Report, 2013 November). Transmission and Distribution losses declined to 27.8 percent in year 2012-13. While the company operational maintenance expenses increased up to 524 percent or Rs 29.398 million in the current year as compared to Rs 4.71 million in 2004-05. In year 2012-13 government has paid 76.615 billion on account of tariff adjustment.

Karachi Electric has secured a level 'A' rating from the Global Reporting Initiative (GRI) for its integrated Sustainability report for the year 2009-12.

KE has initiated campaign against power thieves by the name 'They Steal We pay' (Urdu: بھریں ہم کریں وہ) in 2009, it warned culprits of stern action and also appealed ordinary citizens to help KE in identification of stealing. In its 2011-12 annual report, State Bank of Pakistan appreciated role of KE and an example for the rest of power sector companies as KE shed extra surplus staff, invested in efficient generation plants, and business driven load shedding schedule.

4.7.1 Electric Supply to KWSB

Karachi Electric has stopped electric supply to Karachi Water Supply Board in November 2013. KWSB failed to pay its bill amounting 600 million to 650 million every month which has an accumulated defaulted amount of over Rs. 27 billion. Sindh High Court has already authorised Power Company to disconnect power supply to KWSB installations in which KE tendered notice with a deadline of November 18 for payment to KWSB. Then Sindh High Court intervened and KE has to stop load shedding. It asked KWSB to pay Rs. 70 million to KE as part payment.

[1] Abraaj has adopted Environmental, Social, and Governance (ESG) goals since 2002; the goal is to have a system of value creation in which 'the ability to create deep rooted sustainable changes in the economic landscape of the firm's markets a benchmark of success as pure financial returns.' A UN back effort UNPRI (United Nations Principles of Responsible Investment) has proposed six principles integrated with ESG 'to improve long-term returns and create more sustainable markets'. Goldman Sachs report (2007) concludes that leaders in ESG activities had outperformed the general stock market by 25% since August 2007.

4.7.2 Public Awareness Drive

KE on World Safety Day 2013 has launched a special Electrical and Fire Safety Awareness Campaign targeting 25000 schools' children. The company has also pasted 20000 retro reflective warning signs on fatality prone areas' electric poles. The company's HSE department has trained many employees on safety and 105 senior and middle management employees have also educated about regulatory requirements and performance standards. The company annual report 2012-13 says that radical reduction of accidents by 33 percent and 45 percent reduction in fatalities have been witnessed. The company also has won two 'National Awards on Safety'. The company also awards 'Annual Safety Leaders' to employees and departments in KE with sustained track record with safety performance to promote 'safety first' culture in the company and achieve corporate vision of 'Zero Fatalities'.

4.7.3 Brand Management

The company was previously known as 'Karachi Electric Supply Company' has re-branded its name to Karachi Electric (KE). The company claims that with multi-channel communication strategy, KE has achieved many successes both financial and in the eyes of its stakeholders as well. The company is using mass targeting, electronic, digital and social media platforms to access the target audience to enhance KE's brand equity. Last year, the company has sent out 7.9 million emails and 8.5 mobile text messages. The company has integrated 25,000 customers' data of mobile mapping into the system. The company aims to brand internally via AZM initiative. The company has also presence on face book, twitters and LinkedIn. The company claims that KE's Brand Equity Index is consistently showing positive growth trend from a weak brand to a moderately health one.

The company was previously known as 'Karachi Electric Supply Company' has re-branded its name to Karachi Electric (KE) to shed the load of an inefficient company.

KE is the only power sector company on the Prime Minister's Commission on the elimination of subsidy and finding solutions to the power crisis in the country.

5 Comparative Analysis

This chapter presents analysis and discussion of the mentioned selected distribution companies' comparative performance. It evaluates four performance components, Governance, Operation Management, Financial Performance, and Commercial Management. Governance is composed of Leadership, Organisation and Strategy, and Human Resource Management; Operation Management includes transmission and distribution, T & D Losses, and field operational activities; Financial Performance includes investment, profit and loss, financial reporting; and Commercial Management includes IBP, customers and Brand Management, Marketing and CSR.

This study has given more weight-age in performance assessment to the software side (leadership, management, planning with technological orientation and support to organisational strategy) rather only to hardware (technical and engineering dimension).

The scorecard indicates the comparative strength of each company in the particular domain. The purpose of this scorecard is to bring objectivity, although the scores are judgmental and is based on publically available information. It has been taken from their websites, annual reports, third party audit reports, or other published source.

5.1 Governance

This section provides comparative overview of governance in these companies.

PESCO mission and vision statement both promises to be an efficient and dynamic distribution company and best in Pakistan in safety and reliability. IESCO has changed its mission and vision statements indicating a thrust at leadership level to transform IESCO into a profitable and self-sustaining entity. The previous mission and vision statements were focused on promotion of corporate good governance; the new mission statement is equally pragmatic according to external and internal organisation's environmental requirements, while Karachi Electric mission statement is focused on uninterrupted safe and affordable supply of power, a good promise and a hope to consumers; vision statement of KE meant to restore and maintain pride in KE to fulfil this vision it needs to work aggressively.

Table 13: Mission and Vision Statements

Mission Statement		
PESCO	IESCO	KE
We aim to be an efficient and dynamic distribution business that is the best in Pakistan in the areas of safety, reliability, great employees and the quality customer satisfaction to all consumers.	To provide uninterrupted power supply to our customers enabling trade and industry, commerce, educational and social activities to flourish and enrich the lives of our customers. -To be a socially responsible corporate citizens -To be the most efficient public utility in Pakistan -To achieve the lowest line losses in the distribution sector -To be an employer of choice -To generate profits for our stakeholders	Brightening lives by building the capacity to deliver uninterrupted, safe and affordable power to Karachiites.
Vision Statement		
Achieve and maintain the highest degree of efficiency, reliability and responsiveness as a public service organisation for variety of customers. Public and company worker's safety shall be high on our priority Retaining and growing our business, staff and customer base will of primary importance Developing innovative business relationships both inside and outside our local distribution area will be key to our success	To be the most admired public utility in Pakistan, an undisputed leader in the power sector, efficient and profitable	To restore and maintain pride in KE, Karachi and Pakistan.

5.1.1 Leadership

Companies' leadership profile describes brief biography of each Chairman and CEO. The purpose of this section is to compare the profile of each office holders, and judge their capacities in leading the company towards self-sustainability and profit.

Table 14: Companies' Leadership Profile

PESCO	IESCO	KE
Chairman		
Mr. Malik Muhammad Asad Khan	Mr. Ghiasuddin Ahmad	Mr. Tabish Gauhar
He is MD of InterConstruct Private Limited Islamabad and Ex District Nazim (politician and Businessman)	He is Ex-Civil Servant from District Management Group, also remained on the Board of KE, NADRA, NEPRA etc.	He started his career at Exxon Chemical, Regional CFO at AES Corporation for Europe, Middle East and Africa. He has previously worked with International Power on its Hub Power Project in Pakistan. He served as CEO KE between November 2009 and February 2013.
Chief Executive		
Brig. Tariq Saddozai	Malik Muhammad Yousaf Awan	Nayyer Hussain
He is an ex-Army officer; he has also served in KE (former KESC) as Managing Director for 5 years. He also served as Technical Attaché in Washington USA. He earned BE from NED Engineering University Karachi and Master in Strategic Studies from Quaid e Azam University Islamabad. He has also served in Northern Region of Pepsi and Almueez Industries.	He joined WAPDA and remained on many positions within different power companies with an accumulated experience of thirty years. He did BE from UET Lahore and executive MBA from Preston University Islamabad.	He is CEO of KE since February 2013, and Chief Distribution Officer between November 2009 and February 2013. Prior to joining The Abraaj Group, he was working with Mashreq Bank and Citigroup from 1991 to 2005, he worked with their franchises in Pakistan, Saudi Arabia and Russia as Head of Retail Risk Management.

Table 15: Scorecard Governance I (Leadership)

Company	Chairman (2.5)	CEO (2.5)	BoD (2.5)	Strategic Intent (2.5)	Score (10)
PESCO	1.4	1.8	1.0	0.8	5.0
IESCO	1.4	1.8	1.9	1	6.1
KE	2.4	2.2	2.3	2.2	9.1

The Scores to these positions are awarded based on their capacity to meet company's strategic and operational needs. It has also taken into account the previous experience of incumbents in turnaround businesses, financial management experience, and capacity to attract investors, corporate experience in international firms or outstanding business ventures of international calibre, specifically power sector experience.

5.1.2 Organisation and Strategy

This section focuses on company's structuring and organisation of resources around company's core strategies. PESCO and IESCO are following the traditional legacy organisational hierarchies and structure and have geographic structure at operational level while Karachi Electric is working with mix approach, and has developed 'Integrated Business Centre' a restructured customer oriented point of customer service, to fill the gap between technical and commercial activities.

Table 16: Organisational Structure

PESCO	IESCO	KE
Geographic Structure	Geographic Structure	Mix

In 2001 KE had more than 18000 employees, which is now 10603 employees, while the other two companies have added employees to its workforce.

Table 17: Number of Employees

Year	PESCO	IESCO	KE
2013	17804	13674	10603
2012	17204	13611	11325

PESCO and IESCO are following government jobs like life time employment practices while Karachi Electric has its own employment structure.

Table 18: Employment Practices

PESCO	IESCO	KE
Life Time Employment (as government agency)	Life Time Employment (as government agency)	Corporate Open contract Employment

Governance II scorecard shows comparison of selected companies' performance in organisation and strategy. Peshawar electric Supply Company in its mission statement has focused on efficient and dynamic distribution with safety and reliability along employees and customer satisfactions; while the vision statement also speaks of efficiency, reliability and responsiveness. But neither in actual the company has had; it could be noted that company has highest T & D losses and has incurred financial losses up to the tune of PKR 29 Billion in FY 2013. The company has no restructuring plan in pipeline in support of its promised mission and vision.

PESCO is facing huge power theft and stubborn customers especially in Bannu Circle and Peshawar's suburbs, where customers snatch electricity from the distribution company at gun point. Naturally, in this scene the company has a single point agenda to improve conservation and reduce T and D losses. At ground, company has no sound strategy to overcome this menace of power theft except administrative measures and use of police.

IESCO has focused on the strategic management within organisation; the company has changed its mission and vision statements. But currently, IESCO has neither massively restructured and nor has any restructuring plan to support its mission and vision. The company has formulated few policies at operational, administrative level to improve. The slow pace of strategic management at IESCO could be mainly attributed to government interventions. KE has brought changes in its structure to support its core strategies.

KE also has taken initiatives to improve its fleet efficiency at generation level; introduced theft free wires; and has developed IBCs to facilitate customers.

Table 19: Scorecard Governance II (Organisation & Strategy)

Company	Strategy Supporting Structure (2.5)	Strategy supporting policies (2.5)	Business Growth Plans (2.5)	Technology Orientation (2.5)	Score (10)
PESCO	1.0	0.6	0.4	0.2	2.2
IESCO	1.0	1.1	1.1	0.7	3.9
KE	2.2	2.3	2.1	2.3	8.9

5.1.3 Human Resource Management

PESCO and IESCO trained its employees in Regional Training Centre. Currently, USAID is also helping these companies and training their employees in safe workplace practices. KE has claimed visible results in workplace safety in its annual and sustainability report. In PESCO

and IESCO training is provided only to promotable employees while KE has more extensive training program with organisation wide development initiative in 2011. PESCO and IESCO are facing power theft and financial losses, therefore with existing training methods; it seems difficult that they would be able to overcome its technical, commercial and financial losses. Karachi Electric has moved towards leaner organisation and earned profit for consecutive two years in FY 2012 and 2013. It could be attributed to the company's alignment of HR practices with its core strategy. In recruitment practices, both companies PESCO and IESCO are practicing quota system including employee's son quota while in KE recruitment is competency based, which is evident of the fact that KE has established strategic linkages with reputed higher education institutes to meet its manpower demand.

Table 20: Scorecard Governance III (Human Resource Management)

Company	Safety Practices (2.5)	OD Plans (2.5)	Org. Culture (2.5)	Employment Practices (2.5)	Score (10)
PESCO	0.8	0.7	0.5	0.4	2.4
IESCO	0.8	0.7	0.5	0.5	2.5
KE	1.5	1.7	1.4	2.1	6.7

5.2 Operation Management

In this section, those particular technical and operational dimensions are focused which have relevance with strategic needs of the organisation. Transmission and Distribution losses have been selected as benchmark along some other operational factors. All the three companies have introduced many technological oriented innovative solutions to improve its operation, although this study indicates need to give more weightage to the software rather the hardware of the company.

The previous four years data shows continues decline in power losses in IESCO and KE while PESCO data is inconsistent.

Table 21: Transmission and Distribution Losses

Year	PESCO	IESCO	KE
2012-13	34.2%	9.4%	27.8%
2011-12	35.9%	9.5%	29.7%
2010-11	35.2%	9.8%	32.2%
2009-10	34.7%	9.8%	34.9%
2008-09	35.2%	10.8%	35.9%

PESCO has more territory to cover especially the hilly stations comparing with IESCO and KE. Population in its jurisdiction area is more scattered, while IESCO and KE are serving a populous region. Table 22 shows areas coverage of three power companies.

Table 22: Territory Covered / Consumer per Sq. Km

Company	Covered Area	Consumers Per Sq. km	Consumers to Employee Ratio
PESCO	74,521 sq. km	34	141 to 1
IESCO	23,160 sq. km	91	154 to 1
KE	6500 sq. km	384	235 to 1

Source: PEPCO Report on DISCOs Performance Statistics for Year ended June 30, 2010

Consumer distribution per sq. km, PESCO has 34 consumers per sq. km while KE has 384 consumers.

Per man productivity is an important benchmark to assess organisation productivity. Karachi Electric has improved its per man productivity by increasing services to 235 consumers per employee while PESCO has 141 consumers per employee.

Table 23 shows the actual demand MW of each power company for FY 2012, and FY 2013.

Table 23: Actual Demand MW

	PESCO	IESCO	KE
2012-13	2840	1276	2778
2011-12	2696	1645	2596

PESCO and IESCO are divided into circles while KE is divided into regions. There are divisions and subdivision in each circle while region is divided into Integrated Business Centres.

Table 24: Operating Circles

PESCO	IESCO	KE
6 Operation Circles (33 Divisions, 147 Sub Divisions)	5 Operation Circles (19 Divisions, 98 Subdivisions)	4 Regions (28 IBCs)

Employees' health and safety is an important indicator of best workplace practice.

Table 25: Numbers of Fatalities in Line Staff

	PESCO	IESCO *	KE **
2012-13	NA	NA	45% reduction in employee accidents and 36% reduction in asset damage
2011-12	NA	NA	14.6% reduction in employee accidents and 26.7% reduction in asset damage
2009-10	28	35	
2008-09	28	24	
2007-08	30	18	

*Data Source: IESCO HR Department "Data as of Dec 30th, 2010 Cited in MWP-USAID IESCO OPERATIONAL AUDIT REPORT, ** Karachi Electric Annual Report 2012-13

Operation Management scorecard has taken transmission and distribution losses, infrastructure, process management orientation, and theft control measures as indicators. Data shows that PESCO has poorly controlled transmission and distribution losses. IESCO and KE have reduced its losses successfully. IESCO has brought 13% decline in its losses while KE has reduced it by 22%. PESCO losses are decreased by 3% in the last four years.

Table 26: Scorecard Operations Management

Company	Line Losses (2.5)	Infrastructure (2.5)	Process Management (2.5)	Theft Control (2.5)	Score (10)*
PESCO	0.6 (3% decrease in 4 years)	0.5	0.5	1	2.6
IESCO	1(13% reduction in 4 years)	1.1	0.8	1.1	4
KE	1.8 (22% reduction in 4 years)	2.1	1.7	1.9	7.5

5.3 Financial Performance

Financial Performance component has considered companies' assets, investment, audit practices and companies' profit as basis for this scorecard.

Table 27: Financial Performance

	Companies Fixed Assets 2012-13 In Million PKR	Net Profit 2012-13 In Million PKR	Revenue Collection 2012-13 In Million PKR
PESCO	29730	(31,043)	100,998
IESCO	39410	(4,500)	76,266
KE	115571	6,729	188,999

***KESC Annual Report 2012-13, PESCO's Annual Report 2012-13, ** IESCO's application for Determination to NEPRA Year 2012-13, * Application for Determination in the matter of Peshawar Electric Supply Company Limited to NEPRA No. NEPRA/TRF-212/PESCO-2012

Table 27 shows profit/loss of these companies. Karachi Electric shows consistent decline in losses and increase in profit. Profitability of Karachi Electric is a healthy sign in Pakistan power sector. Company's Internal Audit practices are now changed in all the three companies and the internal auditor is now reporting to BoD.

Table 28: Scorecard Financial Performance

Company	Investment (2.5)	Profit/Loss (2.5)	Contribution to Circular Debt (2.5)	Internal Audit Reporting practices (2.5)	Score (10)
PESCO	0.5	1.2	1.0	2.5	5.2
IESCO	0.5	2.0	1.5	2.5	6.5
KE	1.8	2.5	2.0	2.5	8.8

*Contribution to circular debt contains T & D Losses, and financial Losses

Communication with both external and internal customers is important to convey company's policies and information. It helps the organisation to achieve intimacy with its stakeholders.

Table 29: Consumer's Outreach and Collection

	Company's Mobile Text Facility	Number of Consumers 2012-13 (000)	Collection Ratio 2012-13
PESCO	No	2781	85%
IESCO	No	2315	95%
KE	Yes	2500	85%

Source: PESCO's Annual Report 2012-13
KE's Annual Report 2012-13

All of the selected companies have more than 2 million consumers.

The scorecard commercial I presents Internal Business Process (IBP includes bill preparation, billing process, billing delivery, and other processes), customer involvement.

Table 30: Scorecard Commercial I (IBP & Customers)

Company	IBP (2.5)	Customer Orientation (2.5)	Stakeholders Communication (2.5)	Rev. Collection Ratio (2.5)	Score (10)
PESCO	1	0.7	1	1.5	4.2
IESCO	1.5	0.8	1	2	5.3
KE	2.1	2.3	2.5	1	7.9

Table 31: Scorecard Commercial II (Brand Management Marketing and CSR)

Company	Brand Management (2.5)	CSR (2.5)	Customer Outreach/social media use (2.5)	Website (2.5)	Score (10)
PESCO	0.3	0.7	1.0	0.7	2.7
IESCO	0.5	0.7	0.9	1.3	3.4
KE	2.4	2	2.1	2.2	8.7

Table 31 shows Brand Management and communication channel with customers. PESCO and IESCO are legacy WAPDA entities and still carry the same identity. Karachi Electric has changed its name in February 2014 in an initiative to cast a brighter image of the company. There is no formal announced policy for corporate social reasonability in two state owned companies; although, there are certain defined policies like they do not charge schools and hospital with commercial rates rather charged them at domestic tariff. Karachi Electric has gone a step ahead with free electricity and free generators to some hospitals. The company is also supplying free electricity to public celebrities like Legendary Actor Moeen Akhtar house,

philanthropist Abdus Sattar Edhi, Squash Legendary player Jehangir Khan and some other public figures houses. KE has also signed an agreement with TCF (The Citizen Foundation) and has offered them to use KE's idle land to open schools for poor. All the three companies have their websites which provide information to customers. IESCO website is more detailed and customers friendly than PESCO, and KE website appears more dynamic than the rest of two. An important feature of Karachi Electric is the availability of Annual Reports on websites. Besides, KE website has finely exhibited its achievements while the rest of two companies in public sector have poorly showcased their achievements.

5.4 Conclusion

Table 32: Aggregate Scores

S. No	Scorecard	PESCO	IESCO	KE
1	Governance I (Leadership)	5.1	6.1	9.1
2	Governance II (Organisation and Strategy)	2.2	3.9	8.9
3	Governance III (Human Resource Management)	2.4	2.5	6.7
4	Operation Management	2.6	4	7.5
5	Financial Performance	5.2	6.5	8.3
6	Commercial I(IBP and Customers)	4.2	5.3	7.9
7	Commercial II (Brand Management, Marketing and Communication)	1.9	3.4	8.7
	Total (70)	23.6	31.7	57.1

Table 32 shows that PESCO, IESCO and Karachi Electric have received 23.6, 31.7 and received 57.1 score out of 70 respectively.

Scorecard I is about leadership role in these companies; in general public sector organisations are plagued with political appointments, and unnecessary governmental interventions. Ruling political parties park their idle workers in these public sector enterprises as member BoD. There is a need to empower these companies in all of its decisions including top level appointments.

Chief Executive Officers of the three companies are equally qualified but the public sector companies are burdened with government related constraints like approval from different authorities and lengthy procedures etc.

Governance II addresses Organisation and Strategy; PESCO has less strategic tilt in its policies while IESCO is comparatively more strategic. Different KE's reports suggest that Karachi Electric is working to shift its generation to more efficient system, along with introduction of ABC in its high theft areas and also establishment of DSPs. The company has also kept a strategic goal to unbundle its system to improve efficiency. The main focus in Governance III scorecard is on efficiency and trained workforce to achieve organisation core goals. In PESCO and IESCO trainings are provided only to promotable employees. KE has more extensive trainings schedule and a significant move is its mega OD programs. In PESCO and IESCO unions consider their role in employee recruitment and transfer as their legitimate right. The reports suggest that KE's recruitment practices are more merit based and performance oriented.

In Operation Management scorecard, data reveals that IESCO has lowest T&D losses and has a trend of continues decline and KE shares the same, while PESCO has inconsistent results.

Financial Performance is the most important indicator of a company success. KE is the only profit making company, while remaining both companies are in losses.

Commercial management has two main components, i.e. internal business processes (for example billing, installation of metres, distribution etc.) and customer service; and secondly, Brand Management, social media and CSR. PESCO is still using decade old COBOL programmed software in bill preparation with no concurrent centralized customers database exists. Besides that performance of customer service of both companies are not satisfactory, while KE improved its customer service with development of IBCs. PESCO and IESCO are still branded as WAPDA in minds of people while KE has taken substantial step in this regard.

6 Recommendations

6.1 Organisational Recommendations

The study has highlighted the need for focusing on governance especially for those companies which are facing financial losses. The following would be the action points to consider.

1 Appointment within utility must be solely on professional experience of individuals of business turnaround, networking with financial institutions at both local and international level, and most importantly a resolve at governmental side of non-intervention and real empowerment to the management of decision-making has to be made.

2 Chairman and CEO are figurehead positions and those individuals must be appointed who have a track record of success within defined area.

3 Distribution companies could recover its unpaid bills from government through negotiating tax payment offsets especially in case of IESCO and KE where public sector is the major defaulter.

4 These organisations need restructuring to make it more responsive to customers; although mere downsizing will backfire, as there is a need to connect all organisational HRD, and rightsizing moves with core organisational strategy.

5 PESCO and IESCO are structured on governing bodies but the decision making and other activities are performed using public sector offices mismatch between the business needs of these hence making a two in achieving organizations.

In customer service centre, mobile number could be an important asset to contact and inform consumers about power shutdown or information about some sudden fault.

6 In customer service centre, mobile number could be an important asset to contact and inform consumers about power shutdown or information about some sudden fault. This service could also be used in keeping inform customers about their safety for example in rainy days.

7 These companies need to focus on the strategy, and a position of Strategy Officer must be created to help the Chief Executive and Board with the current and future organisational challenges.

8 Lean management is a cry of the day for failing organisation. Every organisation becomes obsolete if they ignored the waste produced during operations in form of delays in customer response, idle machine hours, and most importantly redundant staff.

9 Most importantly organisational structure has greater role in its productivity. The structure within these utilities is geographic and an archaic approach towards departmentalization. In recent years, with introduction of newer technologies like GIS, GPS, internet, and other wireless telephony, innovation has made it an easier task to transform vertical organisation to flatter and horizontal one. Therefore, functional arrangement within organisational structure makes it more efficient and utilizes expertise within organisation.

10 These companies need to change quota based placements and appointments and must adopt market oriented merit based recruitment and placement along compensation. Besides, there is also a need for transparent and unbiased recruitment process along attractive salaries and perks. These companies need to adopt best practices of HR functions like recruitment, training, compensation, and career planning. In nutshell, there is a need of precise job descriptions, KPIs, clearly defined goals and objectives, and a developed performance management system.

> PESCO and IESCO need to change quota based placements and appointments and must adopt market oriented merit based recruitment and placement along competitive compensation.

11 DISCOs employees pay salaries are based on governmental Basic Pay Scales which are very low comparing to the nature of their duties. Lower salaries force the employees to collude in corrupt practices. KE has much higher wages than government department at comparable managerial positions. Due to continues political interference employees see their posting and appointment through political connections rather performance.

12 Power companies must rely more on developing software (strategic management, human resource development and planning with technology orientation) to utilize resources efficiently; not expecting hardware (equipment, engineering) only to deliver.

13 Power theft, transmission and distribution losses and non-payment of dues are the three important areas to improve. It will make power business viable in Pakistan. Indeed, Karachi Electric has successfully controlled its losses and improved its revenue and has become profitable. In the given model, it is understandable that improved performance is not only recovery of bills and control in power theft; these are the effects of a long run strategic initiative. Improvement in performance of power companies need to assess that success comes in focusing root causes of failure rather symptoms of failure. *Kunda* culture and refusal to pay bills are the symptoms of disease not the real cause. The cause lies in the overall environment of the organisation.

14 State owned power companies need to re-brand themselves as an efficient and customer oriented organisations with strategic tilt. The use of social media and mobile technology in customer management has very good results and application of these media could help the companies to achieve customers' intimacy. They also need to

develop a database of their customers for communication. The companies also need to take care of consumers through safety campaigns and such other steps like establishment of burn unit of electrocution for consumers and employees at their hospitals. It would help company to improve customer loyalty and enhanced value of its brand.

15 PESCO still applies the old WAPDA accounting manual system which is obsolete in current accounting practices in Pakistan. It must adopt current and updated accounting model.

Power companies need to adopt modern metre reading to minimize manipulation of metre reading.

16 Without tariff rationalization, long term financial sustainability cannot be ensured. Consumer end tariff has not been raised in PESCO due to Peshawar High Court's (PHC) stay order which has badly affected PESCO's financial position.

17 Power companies need to adopt modern metre reading to minimize manipulation of metre reading, and its direct link with the main computer system in the company. Digitization and computerisation of company offices would be a step towards good governance among power companies. Use of mobile technology, emails, text messages, etc. would be useful in it. Enterprise Resource Planning has its importance in modern organisation; there is a need to introduce it on war footing in these companies to improve its overall functioning.

18 There is a need of regular evaluation of metre reading reports which is mainly ignored. Besides, metre reader records accuracy is not calibrated which works as driving base for the overall organisational functions. Many times, consumers refuse to pay bills due to wrong bills which are the lifeline for PESCO operation. There are no concerted efforts to re-brand the company as a decentralized power distribution company for Khyber Pakhtunkhwa and Islamabad region with a separate administrative structure.

6.2 Policy Options

The challenges facing by power sector in Pakistan, many policy options could be weighed to improve. It includes efforts to improve performance of power sector within state ownership, initiating public private partnership of existing state owned power fleet, encouraging private sector to invest and privatisation of state owned enterprises to prospective investors. Privatisation has been considered as the most feasible option which would also minimize government's spending on subsidy and chronic losses of the state owned power companies. The path of privatisation is not rosy to trail. If the privatisation of Karachi Electric is considered as a case study in 2005, it failed to deliver until in 2008, when Abraaj staged to appear and rescue both investor Al-Jomiah and KESC (now KE) from financial and management disasters and also injected a huge amount in the company.

There is a long history of state intervention in private businesses. The case of rental power companies and IPPs are few to cite; before fixing an agreement with private

investors, it is the responsibility of government to contract in transparent manner. After the deal, government should avoid any change in its terms of agreements. Government interventions in such matters had saved some money in the past but in the longer period, it has harassed potential investors and has badly affected FDIs in the starving power sector in the country. Therefore such private investment should comply two vital contractual obligations i.e. transparency and predictability. In majority of cases private investment in power sector is initiated by government. Therefore, it is state responsibility to ensure transparency. Shoddy and hasty transactions between government and investors raise eyebrows which many times culminate in courts' litigations. So, transparency is a must for effective privatisation or investment.

Predictability of state policies has considerable influence in private investors' confidence on government intentions. In countries like Pakistan, political wrangling among parties and other factors make investment less secure. Therefore, government should ensure predictability of state contractual obligations and avoid cancellation of already made transactions as its moral responsibility. Some considerations in this respect are in order:

Before fixing an agreement with private investors, it is the responsibility of government to contract in transparent manner. After the deal, government should avoid any change in its terms of agreements.

- To analyse the success of KE in its decline in losses and profit trend, it could be argued that the company has the control over its generation, transmission and distribution and they have successfully manipulated its resources towards operational sustainability.
- Privatisation of DISCOS raises many questions like they are only distribution companies, and have no control over generations and transmission. Therefore, the success of DISCOS privatisation in the long run is a question mark; as currently Pakistan has no success story of privatised distribution company in isolation. Therefore, such step needs much deliberation and care. However, certain possibilities in DISCOS privatisation could be considered for example:
- Bundling each power company with some generation capacity in its jurisdiction;
- Empowering generation companies to sell power on market forces principle;
- Privatizing only Distribution Company or
- Investing first in power generation and filing power gap then inviting potential investors in power distribution.

6.3 Regulatory Environment

In sector like power distribution, regulatory environment has an important role. In Pakistan, National Electric Power Regulatory Authority (NEPRA) regulates power sector. But there are certain discrepancies in the relationship among different regulatory stakeholders in its regulation. The role of NEPRA as an independent entity is also questionable as it works under the cabinet division of Government of Pakistan. Each NEPRA's decision needs rectification from it. NEPRA role as a forum for the determination of tariff is a matter of discussion. Ministry of

Water and Power appoints top management in DISCOs, while NEPRA also DISCOs; therefore it creates conflict of interest which is against the spirit of regulation and fair environment for businesses. There is a need to evolve a new business model of energy sector in agreement of all stakeholders including investors to promote a more liberalised environment. Government has the tendency to intervene and the courts have also started interference in its independence on pretext of public and human rights ground ignoring the business motives of the investing companies. Besides, the role of regulatory bodies should be reduced to allow power sector to operate on market dynamics, it will also attract investment in power sector.

6.4 Opportunities in Liberalisation of Sector

Liberalisation of power sector will promote competition and encourage potential investors to come. Liberalisation raises few questions in Pakistan's context, as the country is facing power shortage and lack of financial resources to build low cost energy power generation plant. Besides distribution companies are also facing consistent losses due to inefficiency and power theft. Therefore, without liberalisation government has no other options at hand. There are certain issues to consider in opening of power sector to private enterprises.

Liberalisation of power sector will promote competition and encourage potential investors to come.

- Liberalisation of power sector must be the part of a holistic strategy rather a part. In the power shortage scenario, searching solution only in privatisation of distribution companies would be a risky one especially in the scenario when mainly these companies are contributing financial losses and power starved.
- Pakistan power policy in 1994 attracted investment and at a stage in 1994 the country had got surplus energy but due to the lack of long run strategy it failed to deliver. After unbundling of WAPDA, certain issues still need to be addressed in power sector development like power system planning and backbone transmission systems.
- After private investment in generation by HUBCO, Government of Pakistan (GoP) proceeded against HUBCO for alleged corruption in tariff mechanism in which finally government had to drop its case and agreed to a revised price. This has built a negative image of power sector investment in Pakistan for private investors. The recent case of rental power scam and Turkish power plant have also tarnished Pakistan's government image as a private regulated business, such decision should not be put to legal procedures or political motives. Therefore, these legal issues are important to resolve before going in any liberalisation process.

In year 2013 government has paid Rs 550 billion to cover circular debt and enabled generation companies to generate electricity according to its capacity as per its electoral promise. Government has paid Rs 1 trillion as subsidy to power sector in the last four years. Decrease in such financial losses will improve the overall national economy. The bottom line of this discussion is to understand the causes of poor performance of the power sector and its consequences for the government. Pakistan's economy remains very weak due to non-

availability of affordable electricity as major contributing factor. State owned enterprises are no more strength of government rather they have become the bleeding wound and incurring heavy losses in shape of subsidies to consumers due to non-affordable electricity, circular debt because of financial losses to distribution companies and direct payment to cover their operational expenses. Healthy and strong power sector in private sector would improve national economy and free government from the unwanted and illogical liabilities while the same companies in government hands would increase losses and corruption which are already happening in present scenario.

The study suggests that Karachi Electric is a success story for the rest of power sector in Pakistan. The company has enabled its management to deliver profit and value to the company. The company also succeeds in developing a winning team at top level and leaner staff at operational.

It would be appropriate to quote CEO of Abraaj Capital, Arif Naqvi while investing in Karachi Electric:

> "When we invested, we knew that this was not just a badly run company but a challenging social and political environment. In KESC, we're exercising adaptive leadership—not only creating technical change but also changing attitudes and values within the organisation and its environment to achieve superior financial, economic and social outcomes. It will be transformational." (Lerner, Khwaja & Leamon 2012, p.2)

7 Annexure

7.1 Names of PESCO's BoD Members

S	Name	Designation
1	Malik Muhammad Asad Khan MD InterConstruct Private Ltd Islamabad	Chairman
2	Brig. Rtd Tariq Saddozai Brig (R) Tariq Saddozai is an ex Army officer, he also served in KE (former KESC) as Managing Director for 5 years. He has also served as Technical Attache in Washington USA. He earned BE from NED Engineering University Karachi and Master in Strategic Studies from Quaid e Azam University Islamabad. He has also served in Northern Region of Pepsi and Almueez Industires.	Chief Executive PESCO
3	Dr. Amjad Ullah Associate Professor Department of Electrical and Electronics Engineering University of Engineering and Technology Peshawar	Director
4	Sohail Akbar Shah Additional Secretary Power	Director
5	Col(Rtd) Alam Zeb Khan Vice chairman Sarhad Rural Support Program	Director
6	Syed Musawar Shah Member Pakistan Engineer Council	Director
7	Lt. Col (Rtd) Jahanzeb Khan,	Director
8	Qamar Zaman Legend player & Vice President of Pakistan Squash Federation	Director
9	Nasir Khan Musazai Chief Executive Officer Z-Jans Pharmaceuticals Company	Director
10	Iftikhar Ahmad Khan President Tobacco Association, Khyber Pukhtunkhwa	Director
11	Sayab Ahmad	Secretary

7.2 IESCO's Board of Directors Profiles

Ghiasuddin Ahmad, Chairman BoD, IESCO	He is an ex public servant from District Management Group, and also remained on the Board of KE, NADRA, NEPRA etc. due to his position in federal secretariat in different ministries.
Malik Muhammad Yousaf Awan CEO	He is the Chief Executive Officer since May, 2013. He joined WAPDA and remained on many positions and also worked in different power companies after the unbundling of WAPDA
Sheikh Tariq Sadiq, Director BoD	He is a venerable businessman and industrialist. He is holding MSc. Economics (1972) and is former chairman of Pakistan Flour Mills Association. He is on IESCO board since June 2005 and also selected as Chairman Board of Director till 2010.
Mr. Naeem Iqbal, Director BoD IESCO	He has an experience of more than 38 years of international and domestic banking. He started his banking career in 1970 and joined Mashreq Bank UAE in 1975. He also remained Chairman and MD Industrial Development Bank of Pakistan till 2008.
Professor Dr Saeeda Asadullah Khan.	She is the President Council of Social Sciences, and also remained as Vice Chancellor of Fatima Jinnah Women University from 2007-2011.
Mr. Noor Ahmad, Director BoD IESCO	He is serving as Senior Joint Secretary, Finance Division Government of Pakistan.
Syed Hyder Sarfaraz Abedi, Director BoD, IESCO	He is working as Director Corporate Affairs in Pakistan Mobile Communications Limited (PMCL, Mobilink), his responsibilities includes Strategic Management of all government and regulatory matters of GSM and LDI operations.
Ali Murtaza, Director BoD, IESCO.	He is a Management and Financial Consultant and has served various international companies. His primary specialization and experience is the incubation of emerging market business opportunities and high risk ventures. He holds degrees in Management and Finance from Kings College London. He has been responsible to invite investors from the UK, UAE and Bahrain.
Mr. Shahbaz Yar Khan, Director BoD, IESCO.	Shahbaz Yar Khan is an advocate of the Supreme Court of Pakistan and is managing a Law firm Piracha and Khan as senior partner and has a vast experience in corporate, commercial and electric power and associated laws.
Muhammad Naeem Aslam, Company Secretary	He is a fellow member of Institute of Cost and Management Accountants in Pakistan and the Institute of Corporate Secretaries of Pakistan and has 19 years' experience in Finance, Corporate Law and Regulations, Public Offering of Shares, Secretarial Practices, Compliance and Corporate Governance.

7.3 Profile of KE BoD

Chairman, Tabish Gauhar	He has 19 years' experience in the infrastructure sector in Middle East, South Asia, Europe and Africa. He had previously served as KE's CEO from 2009-2013. Before, joining The Abraaj Group, he was Regional CFO at AES Corporation for Europe, Middle East and Africa and also worked with International Powers on its Hub Power Project Pakistan. He is an electrical Engineer, Chevening scholar and holds MBA from IBA Karachi. He has also work at MSF Pakistan as Director, and Byco Industries Inc. Mauritius. T
Chief Executive Officer, Nayyer Hussain	He is Chief Executive Officer and Member BoD KE. He is CEO since February 2013; he also served as Chief Distribution Officer from 2009-2013. Before joining Abraaj Group, he had worked with Mashreq Bank, Citigroup (1991-2005) in Pakistan, Russia, and Saudi Arabia as pioneer Retail Risk Management head. He managed turnaround an adversely performing portfolio at Saudi American Bank during his tenure in Saudi Arabia.
Khalid Rafi	Independent Director (October, 2012 till to date), he was a senior partner at A F Ferguson and Co, a member firm of PricewaterhouseCoopers LLP for 20 years. He was also the president of the Institute of Chartered Accountants of Pakistan and management association of Pakistan. He is a fellow at the Institute of Chartered Accountants in England and Wales. He has been a non-executive Director of Uniliver Pakistan Ltd since 2008.
Frederic Sicre	He is working as non-Executive Director since May 2013. He is managing Director, The Abraaj Group Dubai with 20 years' experience in private sector engagement on global issues, regional development agendas, and community building. He is leading Strategic Stakeholder Engagement Track (ASSET) at the Abraaj Group to engage governments, the private sector, media and culture. Before, joining Mr. Sicre spent 16 years as Managing Director at World Economic Forum. He holds MBA from IMD and is a fellow of Stanford University USA.
Mubasher H. Sheikh	Non-Executive Director, he has been a non-executive director on KE boards since its privatisation on 2005. He has been employed by the National Industrial Group Kuwait and is currently Group Financial Controller. He is Chartered Certified Accountant UK (FCCA), he is also on board of Proclad Group Limited UAE.
Muhammad Zafgham Eshaq Khan	Muhammad Zargham Eshaq Khan is a Non-Executive Director, Government of Pakistan nominee since 2011. He is also on the board of Director of LESCO, PESCO, HESCO, MEPCO, and GEPCO.

Muhammad Tayyab Tareen	He is on board since May 27, 2009 and remained an Executive Director till June 10, 2013 in the position of Chief Financial Officer and Chief Strategy Officer. Currently, he is a Non-Executive Director of the company.
Noor Ahmed	Non-Executive Director (GoP nominee) Noor Ahmed is a Non-Executive Director on the Board of the Company appointed on September 10, 2013. He is a government nominee and Senior Joint Secretary finance Division Ministry of Finance GoP..
Omar Khan Lodhi Non-Executive Director	Omar Khan Lodhi is a Non-Executive Director on KE's Board since August 26, 2010. Mr. Lodhi is a Partner and Regional Head of The Abraaj Group for East Asia, based in Singapore. He also holds an MBA from the Harvard Business School.
Shan A. Ashary Non-Executive Director	Shan A. Ashary has been a Non-Executive Director on the Board of the company since November 29, 2005. Mr. Ashary is a senior executive with thirty years of proven success in managing international investments, operations of a large diversified group, finance, treasury, public accounting, and strategic and corporate planning.
Wahid Hamid Non-Executive Director	Wahid Hamid is a Non-Executive Director on the Board of the Company, elected at the AGM held on October 8, 2012. Mr. Hamid is a Partner at The Abraaj Group and Head of The Abraaj Performance Acceleration Group, in which role he is responsible for structuring the firm's operational excellence and business acceleration capabilities to drive value creation in partner companies.
Syed Arshad Masood Zahidi Executive Director	A Director at The Abraaj Group, currently assigned to Karachi Electric Supply Company, Pakistan as Chief Generation & Transmission Officer. Mr. Zahidi collectively possesses more than 22 years of experience in Process Design, Business Development, Project Management, and Plant Management in fertiliser, power and refinery sectors.

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A very good compilation of essential data on the power distribution companies to review and rate their performance. This would serve as a good stepping stone to further analyse their working as independent utilities and rate their performance as corporate entities. The report is particularly useful as a template for comparing the performance of the distribution companies and can serve as the building blocks for a constant and recurring effort to monitor and review the performance of the distribution companies in a competitive, decentralized power regime.

Mohsin Khalid,
Former Chairman Islamabad Electricity Supply Company

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