

# Tata Power Delhi Distribution Ltd: measuring beyond the metrics

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## Prologue

In early 2010, Puneet, General Manager for Corporate Strategy and Planning at Tata Power Delhi Distribution (TPDD) while reviewing the results of the balanced scorecard implementation in early 2005, felt satisfied and relieved. The revenues showed an upward trend on a year on year basis, TPDD had obtained an unparalleled reduction in Aggregate Technical and Commercial (AT&C) losses and there was a holistic improvement in the organization's capabilities. Relaxed, he slid on his chair and the trophy of International BSC Hall of Fame award that was won by TPDD in 2008 caught his eye. The coveted Palladium BSC Hall of Fame award placed TPDD among a select list of 106 companies that have won that award. As he was looking at the award, the tough times faced some few years before flashed through his mind. A sense of accomplishment filled his heart but at some corner of his mind, there was a feeling that the BSC while having addressed existing challenges, needed to be re-looked at, considering the emerging sustainability related challenges across the globe. The balanced scorecard implementation had undoubtedly helped TPDD meet/exceed the expectations of the immediate stakeholders' namely shareholders, consumers, employees and government. However, it still did not reflect neither the expectation of the society, nor fully capture and reflect TPDD's progress on the social and environmental aspects which were emerging as sustainability challenges for companies across the globe. Puneet was aware that India had unveiled its National Action Plan on Climate Change in 2008, the Ministry of Corporate Affairs had released its Corporate Social Responsibility Guidelines 2009 and the Tata Council of Community Initiatives had developed the Tata Corporate Sustainability protocol to assess the performance of companies on community development. Being a responsible Corporate Citizen, TPDD needs to reflect its commitment to societal and environmental responsibilities. Perhaps time had indeed come to revamp the balanced scorecard.

The authors acknowledge the help and support received from Puneet Munjal, Senior General Manager (Corporate Strategy & Planning) at Tata Power Delhi Distribution at every stage during the case writing process. Needless to say, it was his enthusiasm and zeal to excel that enabled the authors to sail through this journey.

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## Tata Power Delhi Distribution

In early 2002, the Delhi Government unbundled the vertically integrated Delhi Vidyut Board (DVB) into six successor companies, among which was North Delhi Power Limited (renamed as TPDD Ltd). Headquartered in New Delhi, TPDD is a joint venture between Government of Delhi and Tata Power Company with majority stake held by Tata Power Company (51 per cent). Privatization was perhaps the only option available to the Delhi Government and this move was viewed skeptically by the employees and management alike. Initially, TPDD faced a tough task ahead with challenges galore both internally and externally. First, it had to alleviate the apprehensions of the employees and then put in place an effective organization committed to sheer quality and best services in power distribution.

In the early days, TPDD struggled to revive the inefficient DVB. During those times, TPDD inherited power distribution in North and North West Delhi in an area of 510 km<sup>2</sup>, supplying

power to 7.5 lakh consumers through a distribution network which was in an extremely dilapidated condition resulting in frequent blackouts and brownouts. The AT&C losses were at all-time high of 53.1 per cent (i.e. for every two units of power bought, less than one unit reached the end consumer); only 48 per cent of street lights were functional; there were approximately 10,000 no-supply complaints per day; 20,000 new connection requests and approximately 100,000 billing complaints were pending and the consumer records were erroneous. In addition to these, TPDD also inherited the demotivated and semi-skilled workforce of the erstwhile entity as part of the privatization agreement. The above was resulting in dwindling revenues, frequent breakdowns and a wide range of customer complaints.

By early 2004, the state of affairs of power distribution in North and North West Delhi started turning around. TPDD revamped the entire network through its run-repair and replace policy, reengineered the entire revenue cycle management process, upgraded the IT and automation infrastructure and established a performance management system to make the employees accountable. It engaged with its employees through various programs for mentoring, motivation, training and also established a structured reward and recognition system. TPDD also established its Centre for Power Efficiency in Distribution to train its employees and upgrade their capabilities making them adaptable to the IT and automation initiatives undertaken post takeover.

Today, TPDD distributes electricity to North and North western parts of Delhi and has registered consumers of over 1.1 million and serves a population of 5.5 million people. In nine years of its inception, TPDD has successfully reduced AT&C[1] losses by more than 75 per cent (i.e. from 53 per cent down to 13.2 per cent at present since its takeover from DVB in 2002)[2].

### **Aligning the organization through balanced scorecard**

By the end of 2004, TPDD already had its performance management system in place which captured data through management information systems in simple databases of spread sheets. However, it was observed that individual functions/departments were operating as separate islands of excellence and sometimes produced incoherent results as the metrics were not aligned with the strategic objectives as required and hence there was a need for a tool that not only aligns with the strategy/vision but also executes and achieves the targets set. It should also help to map the strategic challenges and objectives together and bring about a "strategic focus" organization where all departments/functions work collective towards attainment of the organizational objectives. The strategic objectives should be precise, measurable and realistic.

TPDD was also aware that most of the Tata Companies had adopted the Tata Business Excellence Model (which draws from the Malcolm Baldrige Framework) on their Excellence Journey (Exhibit 1) and any strategic tool that they chose should be able to align itself to the Baldrige criteria[3] namely, leadership, human capital, business/financial results, process/operations results, strategic planning and customer focus.

### **Balanced scorecard**

Organizations all over the world have a tough time while executing their strategic goals. Surveys indicate that 1 in 10 organizations execute strategies successfully[4] and 72 per cent of the CEOs believe that the execution of strategy is more difficult than developing one (Epstein and Jean-François, 1998). Strategic success goes beyond strategy formulation and depends a lot on execution. Balanced scorecard is a strategic planning and management system that is widely employed in business, government and non-profit organizations to align organizational activities to their vision and monitor divisional/organizational performance to their strategic goals. It was developed by Robert Kaplan and David Norton as a performance management tool that included non-financial measures in order to provide a more balanced view of organizational performance to the managers. In a survey of 1,000 organizations all over the world, around 80 per cent of organizations using

balanced scorecard report improvement in operating performance, 66 per cent of organizations reported profit hikes and 61 per cent reported increase in bottom line results[3]. It is an exhaustive tool to find out where the organization needs to improve, align its performance measure to its goals, give a meaning to its functions at all levels and guide the overall strategy of the organization (Exhibit 2)[4].

The common uses of BSC are the following[5]:

- clarify or update a business strategy;
- link objectives to long-term targets and budgets;
- track KPAs that affect competitive advantage;
- facilitate organizational change;
- compare different SBUs; and
- increase understanding of vision/strategy at all levels of organization.

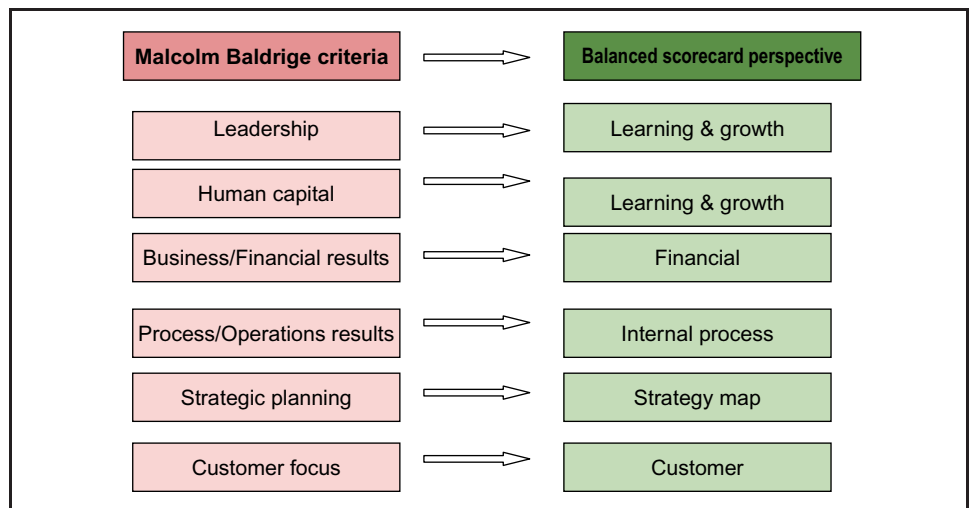
Thus, BSC is a comprehensive tool covering all the aspects of functioning through its four broad heads (financial perspective, customer perspective, internal process perspective and learning and growth perspective) which are used to employ the strategy of the organization. Today, about 70 per cent of fortune 1,000 companies utilize the balanced scorecard to help manage their strategy implementation[6].

TPDD decided to implement the balanced scorecard to align the entire organization towards attainment of the company objectives. The balanced scorecard perspectives were easily aligned to the Baldrige criteria as shown in Figure 1, which gave TPDD further confidence to move further with its implementation.

### “Balancing” the scorecard

TPDD arrived at the metrics/initiatives of the BSC through a detailed process whereby it started with identifying the challenges of the organization. An extensive external and internal environment analysis was undertaken and strategic challenges identified through the analysis were clubbed under three areas: business, operational and human capital challenges. Majority of these challenges had to be complied due to the regulatory aspects like AT&C loss reduction, performance standards and risk mitigation. In terms of business challenges, there was a need to reduce the AT&C losses, mitigating the regulatory uncertainty. Operationally, it had to meet its performance standards and control its distribution costs. For long-term growth, the employees’ competency had to be improved

**Figure 1** Malcolm Baldrige and BSC criteria



with proper utilization of manpower. These challenges had to be aligned with the objectives of the organization which in turn was determined by the strategic planning process (SPP) (Exhibit 3).

The SPP was the crucial one as it identified the initiatives to be undertaken to achieve the objectives and their targets. TPDD put in place a three tier SPP to ensure horizontal and vertical integration. The SPP started with the review workshop which included key process owners who revisited and validated strengths and weaknesses, strategic challenges and advantages such as core competencies, etc. Output of the review workshop was the first cut corporate balanced scorecard with short and long-term targets which formed an input to the functional workshops. The functional workshops captured the functional area's aspirations, SWOT, cross functional requirements, human resource and financial requirements for the shortterm and longterm along with a rolling five-year roadmap aligned to the corporate scorecard.

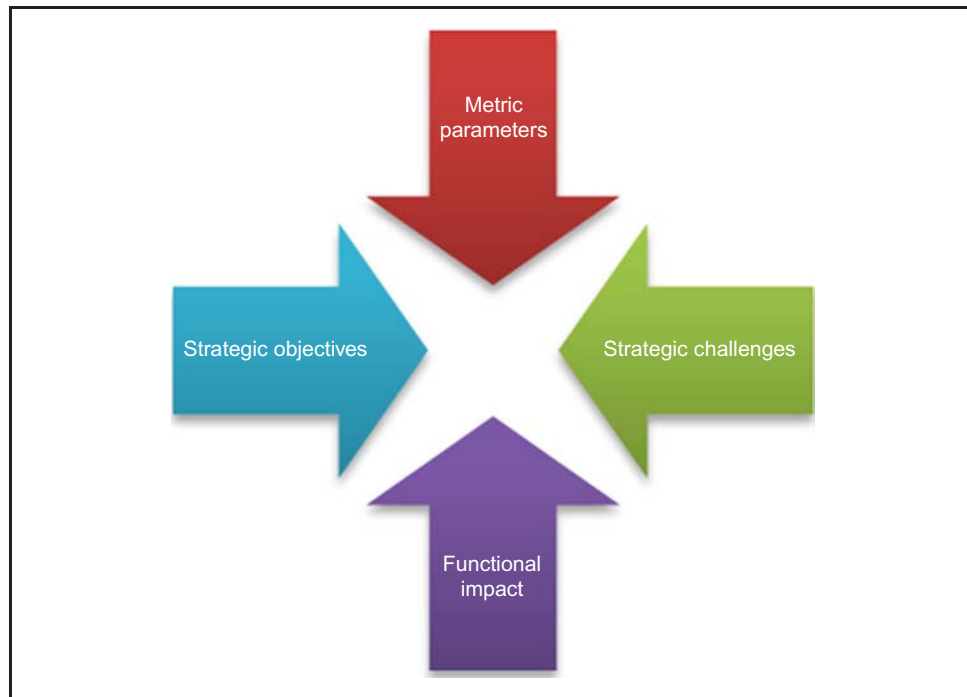
The annual strategy workshop revalidated and finalized the VMV (Exhibit 4), strategic challenges, strategic advantages with detailed action plans to achieve corporate objectives and ensured a top down, bottom up and horizontal integration. The long-term targets helped in finalizing roadmaps in critical areas. The short-term targets were used as input for formulation of the annual operating plans.

Thus, the SPP encompasses all the aspects of the organization in terms of identifying challenges, objectives and their alignment with organizational values (Exhibit 5).

The strategic objectives that flowed out of the planning process were grouped under the four perspectives of the BSC. The objectives were chosen in such a way so that there was a balance among the four perspectives of the BSC (Figure 2). They were then matched with the strategic challenges as to which of these objectives were mitigating the challenges. Also, it was ensured that there should more than one objective that is designed to tackle specific challenge to ascertain that the challenges are properly mitigated (Exhibit 6).

The major advantage of BSC as a strategic tool is identified when there is a "match" between the strategic challenges and the objectives. The challenges as identified by the above

**Figure 2** Major parameters in the design process



process gave rise to the corporate objectives which were captured by the metrics in the scorecard. By mapping the challenges and the objectives, the organization ensured that the metrics intended to serve were highlighting the right measures. For instance, the challenge to reduce the AT&C loss could be achieved by fulfilling the objective of maximizing the rate of return. By maximizing the rate of return, one could ensure that the losses and slippages were reduced and long-term growth was maintained. Similarly, other challenges were taken care by the objectives enlisted and in this way the challenges were identified first to determine the corporate objectives through the SPP (Exhibit 7).

In the scorecard, all the objectives were supported by multiple functions leading to a “balance” in the system. Each and every objective in the scorecard had multiple impacts on the functional domains leading to effective results. They were mapped along the four BSC perspectives with each objective coming under one among them (Exhibits 8 and 9).

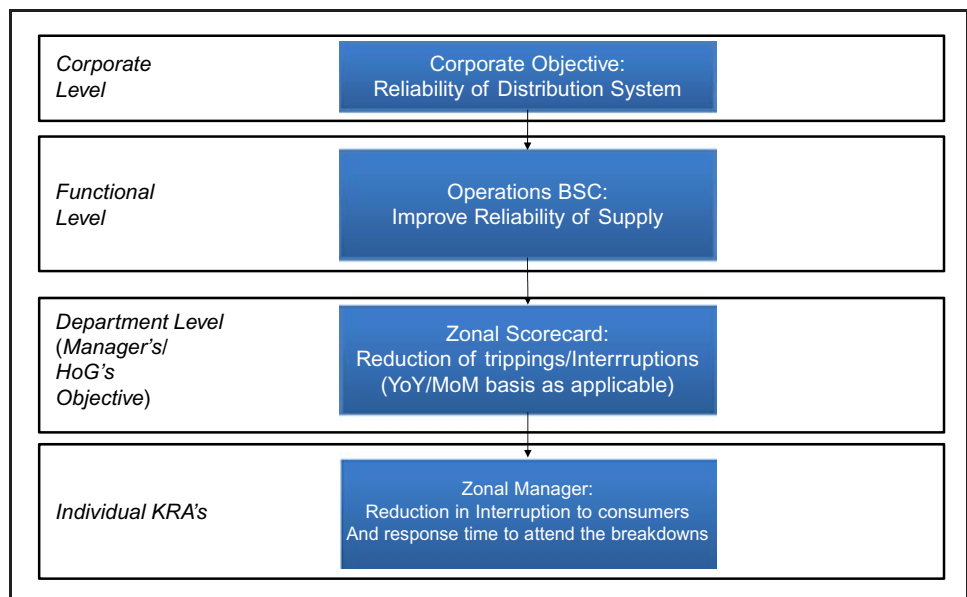
Following this, on the top level one corporate BSC and on departmental level seven functional BSCs were designed. The objectives of the functional BSC were linked to the objectives of corporate BSC. Each and every aspect of the BSC was captured by the respective departments which had their functional implications (Figure 3). For instance, the financial rate of return can be increased by reducing the losses occurring due to the inefficiency in billing and technical loss. These were reduced by replacement of the old meters and prompt recovery of arrear payments (Exhibit 10).

Also, the metrics employed in the BSC were dissected according to the various departmental functions so that one could understand the effect of departmental efficiency. The results of the BSC were reviewed at proper time intervals which enables the strategic planning group to keep track of the various functions both at the group level and at the department level. In this way, Puneet was able to install a comprehensive measure of all the organizational parameters which would affect the BSC (Figure 4).

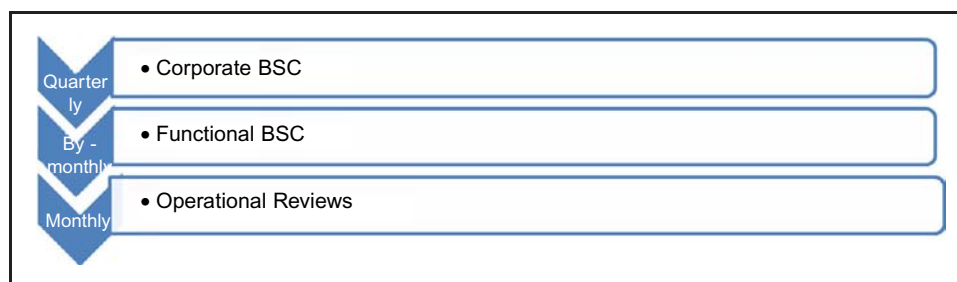
### “Scoring” the scorecard

After the implementation of the BSC, TPDD observed significant performance improvements primarily stemming out of the fact that the BSC had aligned the entire organization towards achievement of common objectives rather than excelling in silos. As a result of its implementation, the customer complaints reduced to a third and the billing efficiency showed significant improvement leading to better quality and service. The AT&C losses

**Figure 3** Trickle down process (Illustrative)



**Figure 4** Review process



which are a significant measure of the discom's efficiency also halved from the 2004 to the 2006, within two years of implementation (Exhibits 11-14). Some of the key initiatives undertaken by TPDD, which emanated out of its SPP are:

- energy audit up to the department level;
- replacement of old erroneous electromechanical meters with new accurate electronic meters;
- aggressive enforcement activities with scientific inputs and analysis;
- public participation in controlling theft through the concept of social audit; and
- collaboration with NGOs for awareness in slums regarding the dangers associated with direct tapping of electricity from live wires.

The following results show the improvements in the functioning of TPDD.

### Significant improvement in power supply reliability

Power supply situation in TPDD has improved over the years owing to the investment in the network and stringent maintenance practices. The reliability indices are as shown in Table I.

### Customer satisfaction

In order to gauge the satisfaction level of consumers, consumer satisfaction survey was carried out by the DERC among 11,140 domestic customers chosen randomly from the each division of the three discoms BRPL, BYPL and TPDD. The respondent consumers were asked about their preference along the seven macro-level parameters namely, continuity of electricity supply, quality of electricity supply, metering issues, billing issues, internal grievance resolution mechanism of discoms, call centers set-up by discoms and behavior of discom staff with consumer. Each of these parameters was further covered more extensively by similarly pre-determined micro-parameters for which the respondents were asked to provide ratings (on a scale of 1-10) indicating how important a parameter was for them. Then they had to rate their satisfaction level with their discom in relation to each micro-level

**Table I** Statistics on power supply reliability

Indicator	On takeover	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008
SAIDI (hours)	110	77	36	23.6	9.3	7.17	6.2
SAIFI (nos)	55	35	18	13.0	5.0	5.44	6.6
CAIDI (hours)	2	2	2	1.87	1.75	1.31	0.9

**Notes:** SAIDI, system average interruption duration index; SAIFI, system average interruption frequency index; CAIDI, customer average interruption duration index

**Source:** TPDD BSC

parameter on a scale of 1-5. The importance as well as satisfaction scores were used to arrive at an index (between 0 and 1) to obtain a comparative measure of the three Discoms (Table II).

### Final lap: lessons learnt

The design of balance scorecard was a tedious task in itself. TPDD was working in a regulated environment where tariffs were constantly under pressure and stakeholders had conflicting requirements. The consumers' always expected lowest tariffs while the shareholders expected reasonable profits. The regulators expected TPDD to provide the best of services to its consumers at the lowest possible costs while the employees expected competitive remuneration.

While BSC was being developed and implemented, Puneet also thought about the concerns that employees will have when it is implemented. Employees' may feel that BSC is not adding any value, it just shows the measurements of particular parameter and it is left for the management to act on it, to generate significant results. In case the metrics are chosen wrongly, then the BSC results will create misunderstanding among the employees. Their appraisals may get affected and the BSC scores may not reflect their true value added to the organization.

He found out that the successful implementation of BSC has to have the following aspects:

- Right blueprinting, i.e. what to measure and deciding which metric to choose.
- Mapping of the individual goals to the organizational objective, thereby achieving goal congruence.
- Proper review mechanism to study the BSC thereby enabling the management to identify the key focus areas and act on them periodically.
- There should be a balance in the metrics chosen, meaning that the strategic objectives should be supported by as many functions as possible which in turn are captured by the metric parameters.
- In principle, all information system should be merged with the BSC system. Management Information System need not function as a standalone strategic function or a tactical support function. It should merge with the BSC system which encompasses all the functions of the organization.
- There should be a balance between the lead and lag measures failing which the management has to wait to observe the results of any initiative that is taken. A healthy balance between them will ensure prompt observance in the score which will help to decide quickly.
- The incentive system should be linked to BSC. This will ensure that the employees are working towards the strategic objective that was decided upon during the design process.

**Table II** Comparative statistics of consumer satisfaction survey

	2009	2007
TPDD	0.62	0.57
BRPL	0.60	0.54
BYPL	0.54	0.51
Overall Delhi	0.59	0.54

Source: DERC web site

## Epilogue

When everything seems to be going smooth, there was always a feel of uneasiness and introspection in Puneet's mind. TPDD has significantly improved its quality of service, reduced its AT&C losses, aligned the employees to company's objectives and has successfully positioned itself as a customer-centric organization. However, newer challenges were emerging in their work environment requiring a relook at the existing strategy and the balanced scorecard framework. Puneet was aware that the power distribution sector was slowly moving to a competitive scenario with the government allowing consumers to choose their preferred supplier *vis a vis* the existing monopoly situation whereby consumers in a particular area were forced to procure their electricity requirements only from a designated supplier who also owned and maintained the electricity network. Further, the governments were also bringing in more private players through alternative distribution reforms model such as franchisee. At such a moment, the company which not only provides quality service but also cares for its community will certainly be a preferred partner. In addition to the above, combating climate change was becoming an important agenda on the government's sustainability program with increasing emphasis on energy conservation, green products (labeling) and environmentally benign operations of corporates through newer and stringent regulations. For distribution companies such as TPDD, mandatory renewable purchase obligations were in the process of being promulgated. Indian society was becoming increasingly sensitive to the baleful impact of climate change and in the near future would start preferring cleaner, greener and socially responsive corporates for goods and services.

In addition to above external challenges, TPDD was also facing an internal challenge of last mile AT&C loss reduction. TPDD had already achieved loss levels of around 15 per cent; the law of diminishing returns was setting in and further incremental loss reductions required completely new strategies. TPDD observed that these last mile losses were mainly in the slum clusters who were indulging in theft of electricity largely due to limited capacity to pay; further, due to political sensitivities, the possibility of supply disconnection was remote in these areas. Coercive measures such as supply disconnection, registration of theft cases against consumers would only have limited impact work as these consumers who were at the bottom of the Pyramid were forced to steal electricity due to necessity (being unable to afford the tariffs) rather than any ulterior motives of profiteering as was the case in high-consumption industrial/commercial consumers who while could afford to pay were stealing due to greed.

Given the above societal challenges which would, if not addressed urgently and appropriately would impact the very sustainability of the organization. How these issues should be addressed through appropriate metrics which would align and drive the organization in meeting these sustainability challenges. Puneet was in a dilemma whether the classical perspectives of the balanced scorecard which linked consumer satisfaction to profitability enabled through robust internal processes and a skilled and motivated workforce could adequately address these emerging challenges related to inclusive growth of the community and protection of the environment against the ill effects of climate change or was there a need to introduce a newer perspective in the balanced scorecard – “The Social Perspective” which specifically aligned the organization to make concerted efforts for enriching the life of its community and take proactive measures to protect the environment. These questions were playing in the minds of Puneet and Ganesh and they were determined to find a solution.

## Notes

1. AT&C loss is the actual measure of overall efficiency of the distribution business as it measures both technical as well as commercial losses.  $AT\&C\ loss = \frac{Energy\ input - Energy\ realized}{Energy\ input} \times 100$ .  $Energy\ realized = Energy\ billed \times Collection\ Efficiency$ .  $Collection\ Efficiency = \frac{Amt.\ realized}{Amt.\ billed} \times 100$ .
2. Delhi Electricity Regulatory Commission (DERC), the state regulatory agency which determines electricity tariffs, promote competition, efficiency and economy in power industry, setting standards and directing discoms regarding their work based on consumer satisfaction survey.

**Keywords:**  
 Performance management systems,  
 Balanced scorecard,  
 Sustainability,  
 Strategic alignment,  
 Partnership

3. Malcolm Baldrige, former United States Secretary of Commerce, a proponent of quality management describes the criteria for performance excellence. The Malcolm Baldrige National Quality Award is given by the US Government for performance excellence. [www.nist.gov/baldrige/publications/criteria.cfm](http://www.nist.gov/baldrige/publications/criteria.cfm)
4. Robert Kaplan, Balanced Scorecard forum 2008, Dubai.
5. Report on Management Tools & Trends 2011, Bain & Co.
6. Malcolm Baldrige CEO survey, 2002.

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**Further reading**

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- [www.derc.gov.in](http://www.derc.gov.in)

**Exhibit 1**

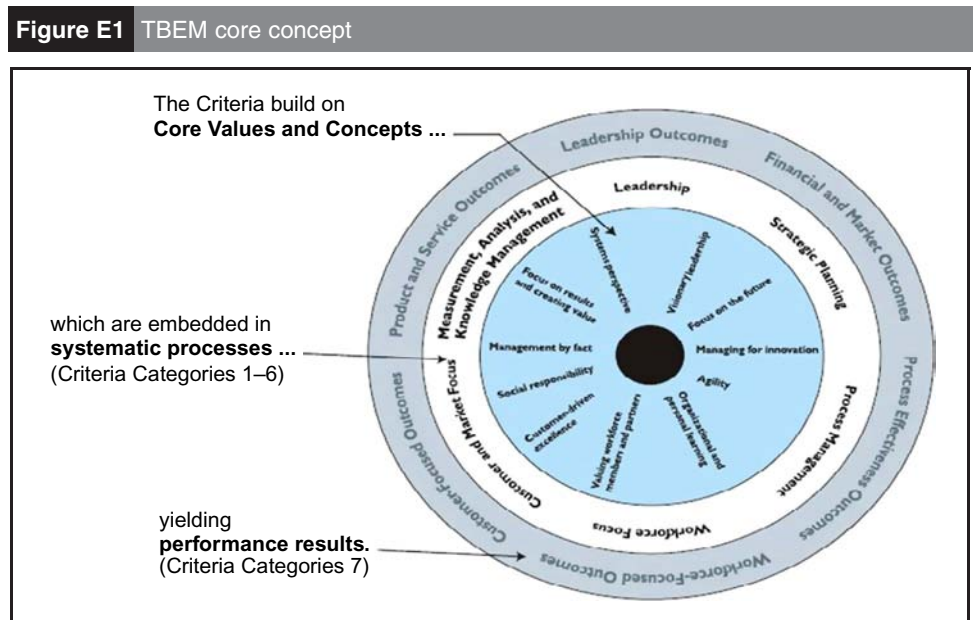


Exhibit 2. Corporate strategic objectives

**Figure E2** Balanced scorecard implementation and experience – survey by Bain & Co

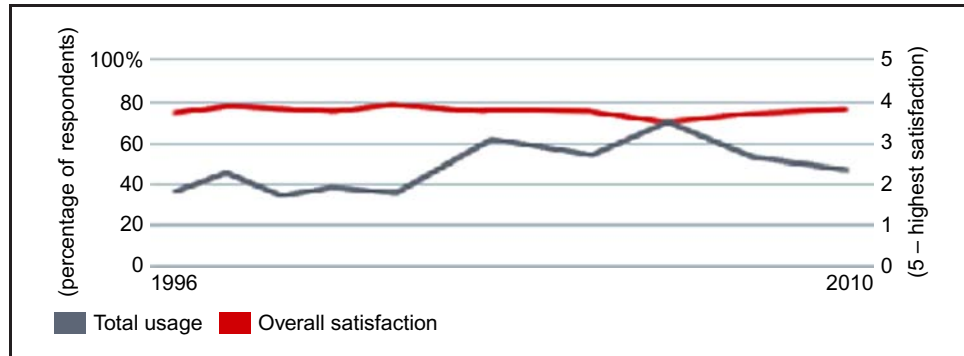


Exhibit 3

**Figure E3** Challenges faced by TPDD (2008-2009)

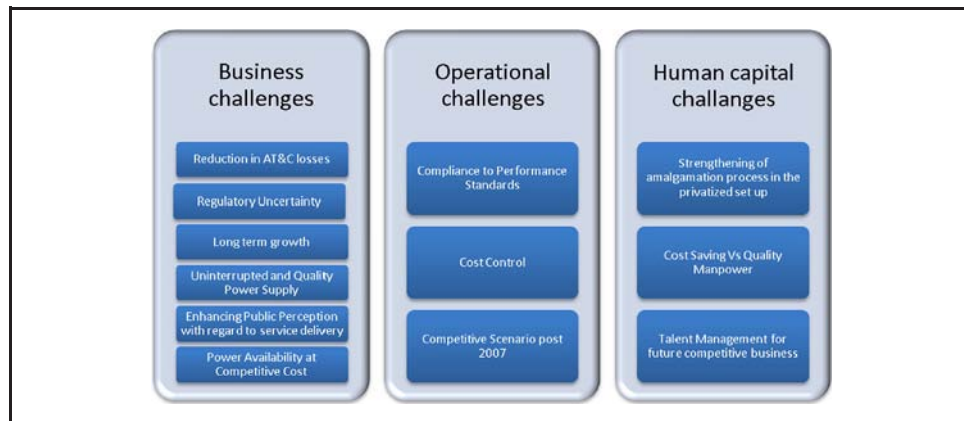


Exhibit 4

**Table E1** Vision, mission and values of TPDD

Vision	To be the most trusted and admired provider of reliable and competitive power, and to be the company of choice for all stakeholders
Mission	To deliver quality and cost-effective electricity To ensure excellence in consumer care To create a work environment that encourages safety, teamwork and innovation To meet or exceed all stakeholders expectations To enrich quality of life in the society we operate in
TPDD core values	<i>Integrity:</i> we must conduct our business fairly with honesty and transparency. Everything we do must stand the test of public scrutiny <i>Understanding:</i> we must be caring, respectful, compassionate and humane towards our colleagues and customers and always work for the benefit of the communities we serve <i>Excellence:</i> we must constantly strive to achieve the highest possible standards in our day-to-day work and in the quality of goods and services we provide <i>Unity:</i> we must work cohesively with our colleagues across the group and with our customers and partners to build strong relationships based on tolerance, understanding and mutual co-operation <i>Responsibility:</i> we must continue to be responsible and sensitive to the communities and environments in which we work, always ensuring that what comes from the people goes back to the people many times over <i>Agility:</i> we must work in a speedy and responsive manner and be proactive and innovative in our approach

Exhibit 5

**Figure E4** Strategic planning process

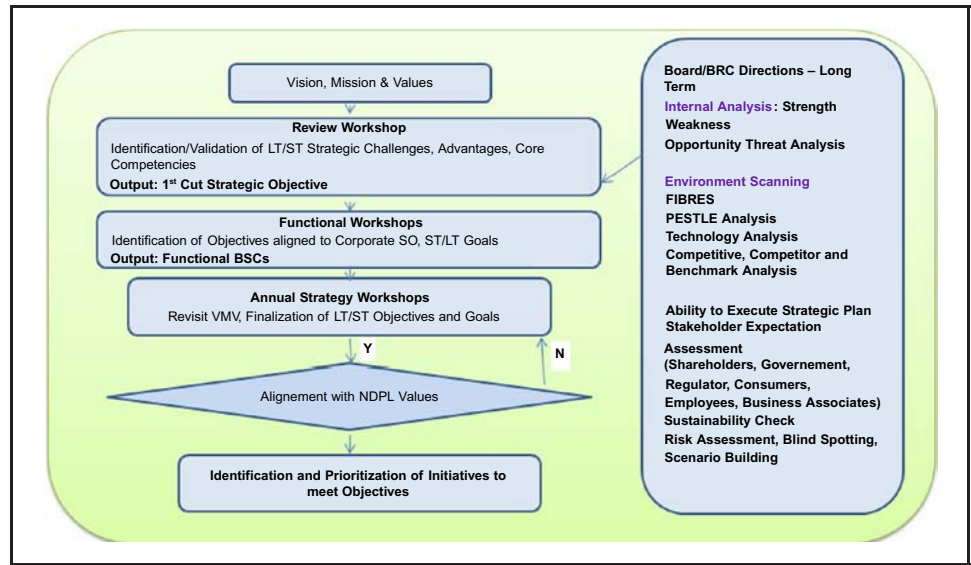


Exhibit 6

**Table EII** Corporate strategic objectives (2008-2009)

Perspective	Corporate objectives
Financial	F1 Maximize rate of return and be + ve EVA
	F2 Optimize cost of power procurement
	F3 Reduce AT&C loss
	F4 Increase productivity of asset base
	F5 Reduce distribution cost
	F7 Grow revenue in non-regulated business
	Customer
C2 Effective follow up	
C3 Effective consumer affection	
Internal process	I1 Optimize procurement processes
	I2 Reduce percentage of energy input to high loss 11 kV feeders
	I3 Effective enforcement
	I4 Power availability
	I5 Reliability of distribution system
	I6 Effective complaint redressal
	I7 Accurate and timely metering and billing
	I8 Enhanced communication
	I9 Performance assurance
	I10 Identify and develop opportunities for non-regulated business
	I11 Assist in realistic regulation and legislation
	I12 Incentive asset sweating
Learning and growth	L1 People development
	L2 Business excellence
	L3 Institutionalizing improvement, innovation and knowledge management
	L4 Employee engagement
	L5 Culture building

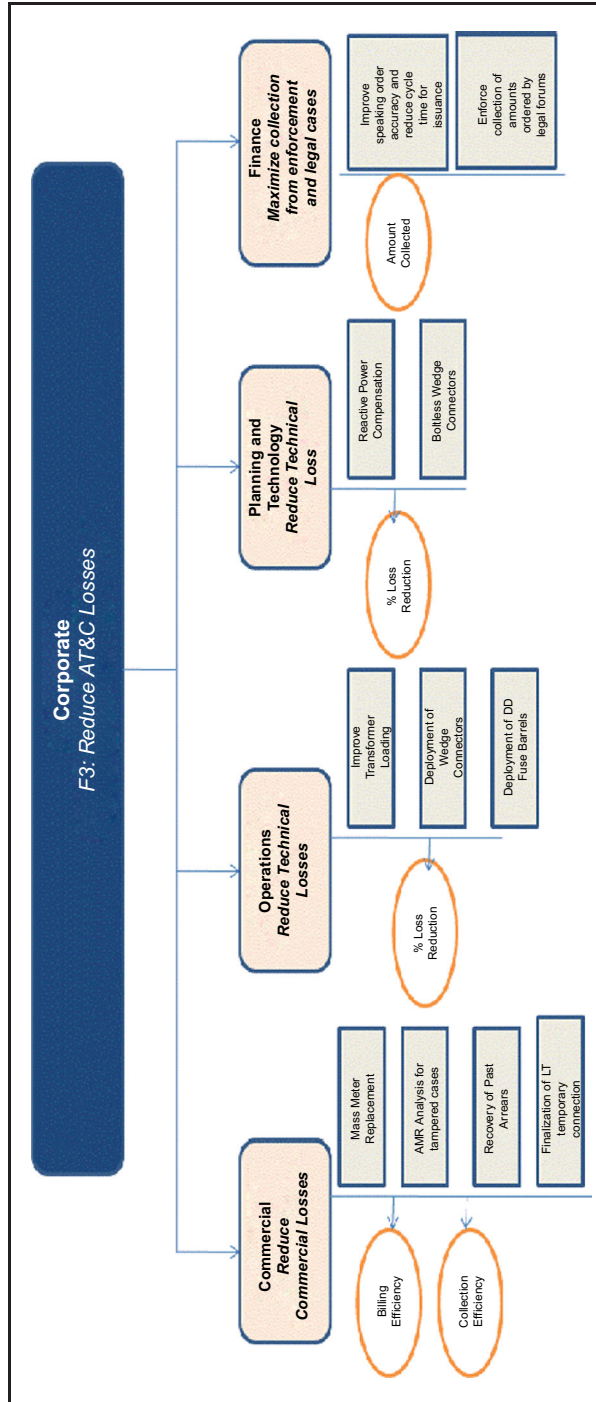
**Figure E5** Mapping of strategic objectives and challenges

Perspective	Perspective Code	Strategic Challenges →																				
		Power Availability at Competitive cost	Enhancing Public perception with regards to service delivery	Minimizing AT&C Losses (Overachievement of Statutory Targets)	Uninterrupted & Quality Supply	Cost Control in line with MYT Targets	Regulatory Uncertainty	Competitive Scenario for High end consumers	Compliance to Performance Standards	Strengthening of amalgamation process in the privatized set up	Sustainable long term profit growth	Talent Management for future	Cost Vs Quality Manpower									
Financial	F1	Maximise rate of Return and be +ve EVA																				
	F2	Optimise cost of Power Procurement																				
	F3	Reduce AT&C Loss																				
	F4	Increase productivity of asset base																				
	F5	Reduce Distribution Cost																				
	F7	Grow revenue in non-regulated business																				
	Customer	C1	Build Consumer Loyalty																			
C2		Effective Follow up																				
C3		Effective Consumer Affection																				
Internal Process	I1	Optimise Procurement Processes																				
	I2	Reduce % energy input of high loss 11kV feeders																				
	I3	Effective Enforcement																				
	I4	Power availability																				
	I5	Reliability of Distribution system																				
	I6	Effective Complaint Redressal																				
	I7	accurate & Timely Metering & Billing																				
	I8	Enhanced Communication																				
	I9	Performance Assurance																				
	I10	Identify and develop opportunities for Non-Regulated Business																				
	I11	Assist in realistic Regulation & Legislation																				
	Learning & Growth	I12	Incentive Asset Sweating																			
L1		People Development																				
L2		Business Excellence																				
L3		Institutionalizing Improvement, Innovation and Knowledge Management																				
L4		Employee Engagement																				
L5	Culture Building																					

**Figure E6** Balance in the BSC (illustrative)

Corporate Strategic Objectives	BSC Perspective	Ops	Comm	IT& Systems	Finance	HR	Admin	PE&C
Reduce AT&C Loss	<b>F3</b>							
Reduce Distribution Cost	<b>F5</b>							
Build Consumer Loyalty	<b>C1</b>							
Reliability of Distribution System	<b>I5</b>							
People Development	<b>L1</b>							

**Figure E7** Functional impact of financial metric F3



**Figure E8** Corporate balanced scorecard (2008-2009)

Perspective	Perspective Code	Strategic Objectives	Measures for Strategic Objectives	Unit of Measure	Actual 05-06	Actual 06-07	Actual 07-08	FY 08-09 Targets
Financial	F1	Maximise rate of Return and be +ve EVA	Return on Equity (RoE/RoNW)	%				
			Economic Value Added (EVA)	INR (in Crs.)				
	F2	Optimise cost of Power Procurement	Cost of Power Procurement (Per unit input)	INR per Unit				
			Cost of Power Procurement (Per unit collected)	INR per Unit				
	F3	Reduce AT&C loss	Aggregate Technical & Commercial (AT&C) Losses	%				
	F4	Increase productivity of asset base	Rolling Investment Carrying Cost (Fixed Network Cost per unit Collected)	Paise per Unit				
	F5	Reduce Distribution cost	Cost of Distribution/per unit realised (Cost to serve - Power purchase cost)	Paise per Unit				
F7	Grow revenue in non-regulated business	Income from Business Consultancy & Asset Sweating Assignments	INR (in Crs.)					
Customer	C1	Build Consumer Loyalty	Xpresss Consumers Satisfaction Index	Index				
			KCG Satisfaction Index	Index				
			HRB Satisfaction Index	Index				
	C2	Effective Follow up	G&I Satisfaction Index	Index				
	C3	Effective Consumer Affection	HCB Satisfaction Index	Index				
Internal Process	I1	Optimise Procurement Processes	Average of Daily Peak Deficits	MW				
			Average of deficits	MW				
	I2	Reduce % energy input to high loss 11 kV feeders	MU's reduced to feeders with losses above 40%	MU's				
	I3	Effective Enforcement	Enforcement Collection	INR (in Crs.)				
I4	Power availability	MUs shed (excluding ILS) with respect to total MUs input at 33kV and 66 kV incoming bus	MU's					

(continued)

Perspective	Perspective Code	Strategic Objectives	Measures for Strategic Objectives	Unit of Measure	Actual				FY 08-09 Targets
					05-06	06-07	07-08		
	I5	Reliability of Distribution system	SAIDI	Hrs.					
			SAIFI	No. of Interruptions					
			CAIDI	Hrs.					
			ASAI	%					
	I6	Effective Complaint Redressal	Complaints escalated to CGRF & Legal forums	Nos.					
			Mean Time taken to Resolve O&M Complaints	Hours					
	I7	Accurate & Timely Metering & Billing	% defective bills	%					
			% provisional bills	%					
			% Bills exceeding normal billing cycle slabs	%					
	I8	Enhanced Communication	Consumer Awareness Index - No. of proactive communications (per month)	Nos.					
	I9	Performance Assurance	Average Connection Installation Time	Days					
I10	Identify and develop opportunities for Non-Regulated Business	No. of Proposals sent	Nos.						
		No. of Projects initiated	Nos.						
I11	Assist in realistic Regulation & legislation	No of Policy proposals proposed to DERC and other Govt & Legal forums	Nos.						
		No of policy proposals approved by DERC and other Govt & legal forums	Nos.						
Learning & Growth	L1	People Development	Training effectiveness Index	Index					
			Training Mandays (Executives+Non Executives)	Mandays					
	L2	Business Excellence	TBEM Score	Score					
	L3	Institutionalizing Improvement, Innovation and Knowledge Management	No. of SHINE Projects registered	Nos.					
			No. of SHINE Projects completed	Nos.					
No. of Knowledge Sharing Sessions			Nos.						
L4	Employee Engagement	Employee Satisfaction and Engagement Index	Index						
L5	Culture building	MBE (Management of Business Ethics) Index	Index						
		Rewards & Recognitions (Excluding appreciation letters)	Nos.						

Exhibit 11

**Figure E9** Reduction in AT&C loss after BSC implementation

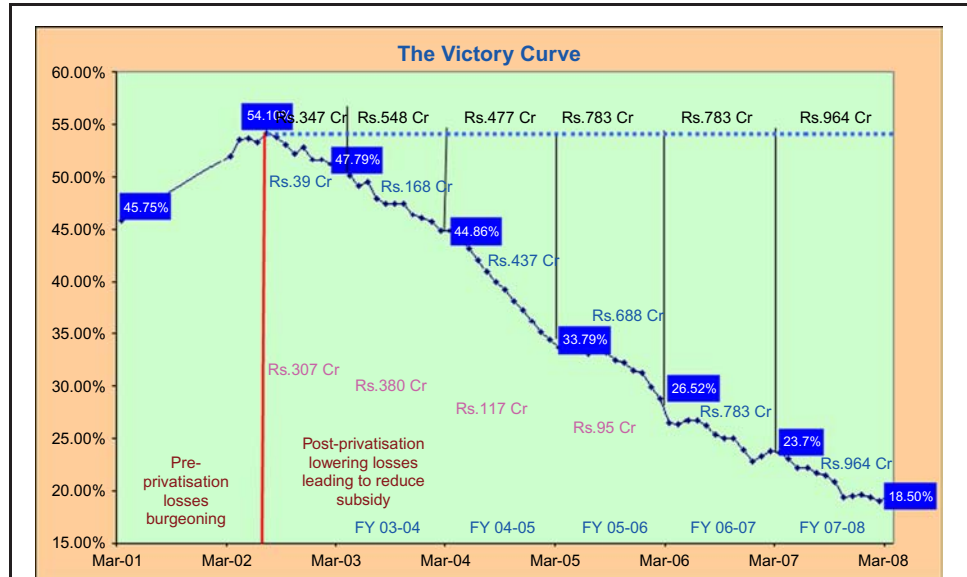


Exhibit 12

**Figure E10** Revenue enhancement after BSC implementation

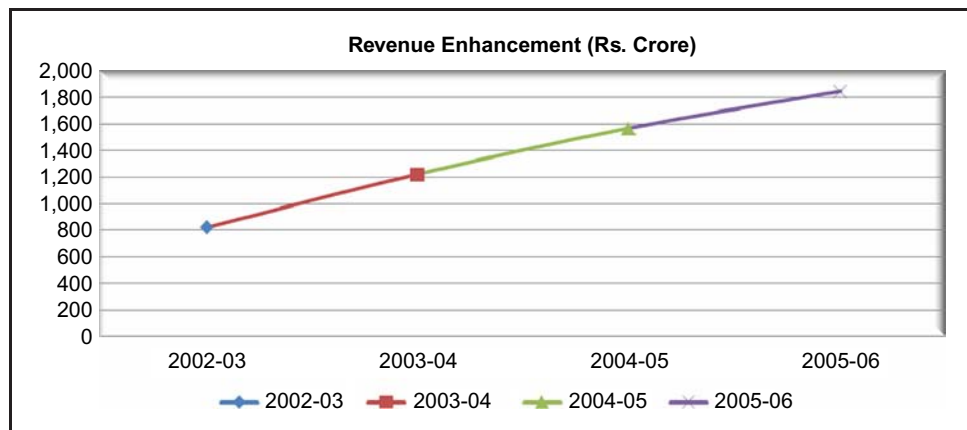


Exhibit 13

**Figure E11** Reduction in complaints after BSC implementation

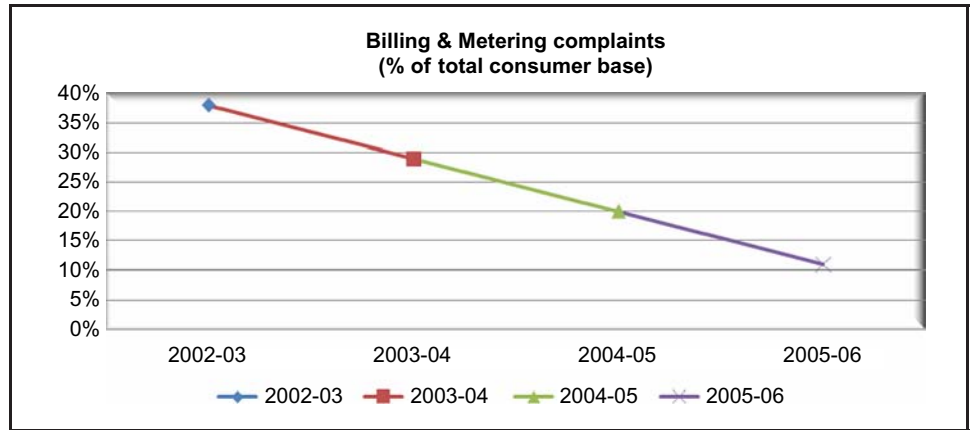
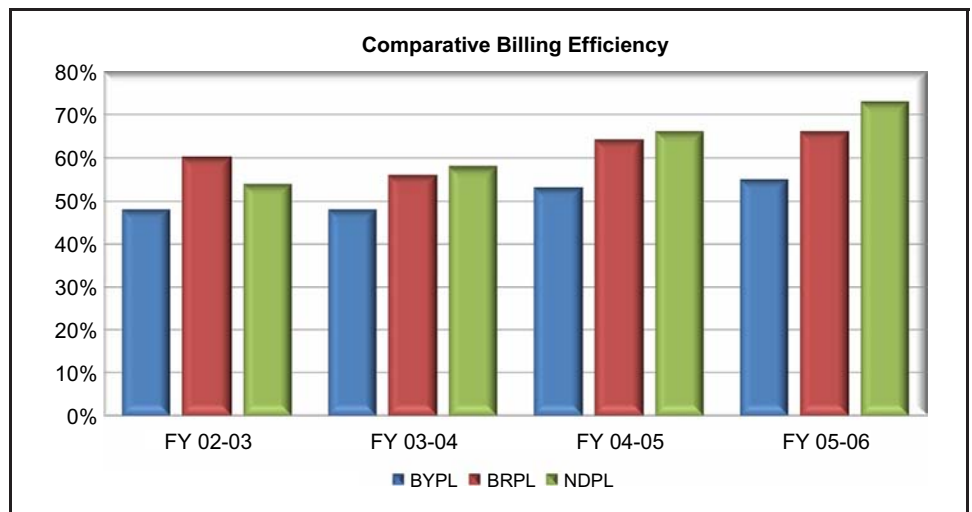


Exhibit 14

**Figure E12** Increase in billing efficiency after BSC implementation



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