

Organizational performance of Information Technology and Productivity: A Review of the Literature

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Abstract

In current years, the relationship among records era (IT) and productiveness has end up a source of debate. In the Eighties and early Nineteen Nineties, empirical studies on IT productivity usually did not become aware of full-size productiveness upgrades. More recently, as new statistics are diagnosed and extra state-of-the-art methodologies are applied, numerous researchers have discovered evidence that IT is associated now not simplest with improvement in productivity, but additionally in intermediate measures, consumer surplus, and economic growth. Nonetheless, new questions become antique puzzles fade. This survey evaluations the literature, identifies remaining questions, and concludes with recommendations for applications of conventional methodologies to new records assets, as well as alternative, broader metrics of welfare to evaluate and beautify the benefits of IT.

Keywords:- Organizational Performance, Information Technology, Productivity, etc.

1. Introduction

When an organization is faced with a situation which mandates a comprehensive transformation for survival and subsequent growth and renewal, the two most important elements for providing the platform for this are Leadership and Communication. Researchers have little doubt that leadership is critical to strategic renewal and transformation but the conventional approach to theory of organization would not have put communication at a similar pedestal to leadership. However, various researches show that

communication is as critical element of strategic renewal as leadership itself.

There are two basic reasons with regards the understanding of the evolution of organizations over the last few decades which form the foundation of this thinking. The first is the evolution of newer forms of structure of organizations from the simple tall or flat designs which existed for most of the 20th Century. Organizations today, by virtue of the environment they operate in, the global dispersion that they have, the need to be more agile, responsive and alive both for business as well as social purposes, operate with a variety of more complex structures. Purely play type's tall or flat organizations are evolving into complex matrices, organizations composed of self-managed teams, network and virtual organizations or the more recently classified Hierarchy-Community Phenotype Model (Lim, Griffiths, and Sambrook, 2010) in which each organization exists uniquely somewhere between the pure play types. With organizational structures being complex as they are now, Transformational leadership has to work through a maze of newer designs, the nuts and bolts of which are still being understood. According to him the following dimensions were important:

- (1) Participative decision making
- (2) Supportiveness
- (3) Trust, confidence and credibility
- (4) Openness and candor; and
- (5) High performance goals.

2 Conceptual Frameworks

2.1 The concept of organization

He brought the communication activity into the concept of authority and superior-subordinate

relations and gave the following guidelines in this respect.

- i. The channels of communication should be definitely known.
- ii. There should be a definite formal channel of communication to every member of an organization.
- iii. The line of communication should be as direct and short as possible.
- iv. The complete formal line of communication should normally be used.
- v. The persons serving as communication centers should be competent.
- vi. The line of communication should not be interrupted while the organization is functioning.
- vii. Every communication should be authenticated.

2.2 Organizational performance

What constitutes organizational effectiveness has been an object of considerable research. It is also conceded that the word organizational effectiveness and performance, and its measurement is an oversimplification of a complex idea of an organization which is not easily measurable.

- i. **They have a bias for action:** Successful organizations get things done. The internal organization is flexible and not afraid to experiment. There is a free flow of information and communication within the organization. Employees are encouraged to take risks in order to achieve something new.
- ii. **They stay close to their customer in order to learn from them:** The customer is the very reason for existence of a business. However, as simple as this idea sounds, many organizations tend to stray away from their customers.
- iii. **They allow their employees autonomy and foster entrepreneurial spirit:** Successful organizations are not only supportive to the creativity of the employees

but also actively encourage and foster the creative spirit of their employees and harness the same.

- iv. **They drive productivity through their people:** Successful organizations exemplify the idea that results are delivered by their people. They value their people and treat them as partners. Communication and exchange of ideas among its people drives productivity gains.
- v. **Employees understand company value and the management is Hands-on:** What is most important to understand here is that the inculcating of the values of the organization is not driven by written policy of what the values of the organization are.
- vi. **Stick to the Knitting:** Successful organizations stick to the business they know. This does not mean that they do not diversify or hold on to the past. These
- vii. Organizations understand their strength and their DNA and make sure that they use it always remaining close to their primary skill.
- viii. **They have simple organization structure and Lean HQ staff:** Size often makes organization complex. Most organization tends to become bureaucratic as they grow in size. Successful organizations however, always keep things simple.
- ix. **Simultaneously loose-tight in control systems:** Companies that have excelled have successfully blended centralized control on core value with loose control on operation to encourage risk taking.

2.3 Organizational performance and communication

Communication has been widely accepted by scholars and academics as the life blood of an organization, because communication is needed for exchanging information, exchanging opinions, making plans and proposals, reaching agreement, executing decisions, sending and fulfilling orders and conducting sales (Blalock, 2005; Alyssa, 2006;

Kotler, 2009). The role of communication in organizational performance can be best depicted through the figure 1.

2.4 Corporate communication: concept and evolution

Corporate communication is a management function or department, like marketing, finance, or operations, dedicated to the dissemination of information to key constituencies, the execution of corporate strategy and the development of messages for a variety of purposes for inside and outside the organization. The department usually oversees communication strategy, media relations, crisis communications, internal communications, reputation management, corporate responsibility, investor relations, government affairs and sometimes marketing communication.

2.5 Forms of corporate communication

The corporate communication function take four different forms based on how and what it communicates with the internal and external stakeholder. These are:

- i. **Internal Communication:** The focus of internal communication is employees. The prime objective is to keep employees invested with the company’s way of thinking and creating a shared values and vision. Internal communication is the most important role of a corporate communication set-up but is a frequently neglected one too.
- ii. **Consumer Communication:** The focus here is primarily on advertising, promotion, brand communication and so on aimed at the customer.
- iii. **Media Communication:** It is believed that publicity plays a greater role in Brand building than advertising as it is more credible. Media communication is aimed at keeping the company favourably in the eye of the public.
- iv. **Crisis Communication:** This is usually aimed at managing public and stakeholder

perception in time of crisis. Effective Crisis communication is characterized by speed and has to be tactical keeping in view the nature of the issue at hand.

2.6 The corporate communications mix

Just as there is Marketing Mix, Service Marketing Mix, Promotional Mix a number of authors have attempted to articulate a corporate communication Mix. One important theory was propounded by Van Riel. In this theory, corporate communication has 3 important constituent elements; management communication, marketing communication and organizational communication.



Figure 1: Corporate communication mix of Van Riel

Table 1 Total corporate communication mix of Balmer and Gray		
Primary Communication	Secondary Communication	Tertiary communication
Products/Services Management Staff Corporate behaviour	Advertising PR	Word of mouth Spin

2.7 Organizational communication in PSUs

The Indian socialist model of development, envisioned and to a large extent very effectively developed during the first few decades of the country's existence gives the Indian economy one of its very distinctive economic features - The Indian PSU behemoths. For most of India's economic history, the core sectors of Indian economy were largely driven by the public sector companies. Still to a large extent, although the share of public sector in total output has been declining as private enterprises are picking up, public sector units dominate the basic infrastructure areas.

2.8 Organizational performance and its measurement in PSUs

In both developed and less developed countries, one can speak of a crisis of the public sector. The main charge is that it is costly for what it delivers. Costly at the revenue level (tax distortion, compliance cost) and at the spending level (more could be produced with less). Costly or at least costlier than would be the private sector.

The measurement of Organization performance in PSUs has been a subject of some debate in India. With the PSUs having been formed primarily with a social purpose and the profit motive not seen as the driving force for most of the period of existence of these PSUs, evaluating them on pure business performance was not the focus for a long time.

3. Global & Domestic Steel Industry

Since the Industrial Revolution, Steel has been a cornerstone and key driver for the world's economy. It is a key material needed for industrialization and urbanization, hence, strongly associated with the development status of a nation's economy. This chapter aims to give the reader important information about the global and domestic steel industry.

3.1 Global and Domestic Steel Industry

3.1.1 The steel economy

Steel is the most widely used material in modern society; thanks to its unique combination of

strength, formability and versatility - steel is everywhere in our life. It is used in construction, automotive, machinery and metal products, transport, Electrical equipment and domestic appliances.

The amount of energy required to produce a tonne of steel has been reduced by 50% in the last 30 years. Steel produced as long back as 150 years can be recycled even today and used in new products and applications. By sector, global steel recovery rates for recycling are estimated at 85% for construction, 85% for automotive, 90% for machinery and 50% for electrical and domestic appliances leading to a global weighted average of over 70% making it one of the most recyclable material. Steel is the main material used in delivering renewable energy –solar, tidal and wind. Nowadays, 97% of steel by-products can be re-used.

3.1.2 The global steel industry

Over the last century, the global steel Industry has evolved significantly along with the changes in technology. From an estimated production level of just 28.3 million tonnes worldwide in 1900, to 189 MT in 1950, 851 MT in 2000 to one of its fastest growth phase in this century reaching a production level of 1665 MT in

Years	World	Years	World	Years	World
1950	189	2000	850	2010	1,433
1955	270	2001	852	2011	1,537
1960	347	2002	905	2012	1,559
1965	456	2003	971	2013	1,649
1970	595	2004	1,063	2014	1,665
1975	644	2005	1,148		
1980	717	2006	1,250		
1985	719	2007	1,348		
1990	770	2008	1,343		
1995	753	2009	1,238		

Figure 2: Trends in global steel production from 1950

Source: World Steel

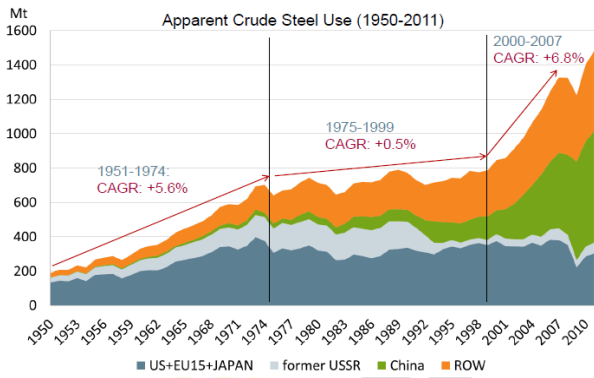


Figure 3: Crude steel consumption for the period 1950-2011

Source: World Steel

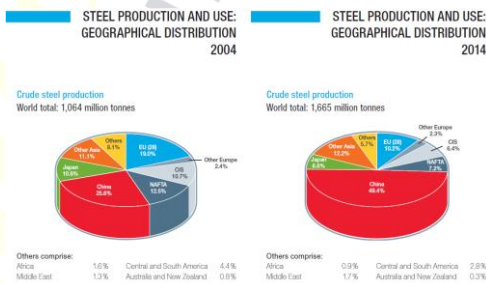


Figure 4: Crude steel production and use

Source: World Steel

On the consumption front, similar cyclical trends are seen which largely coincides with the global economic cycles. However, on a broader level, the post-world war II world has seen three distinct phases in the growth of the industry with two phases of sharp growth and one long period of slow growth in consumption. This is illustrated through the figure 2.2 on the previous page.

As steel consumption in China is also reaching a plateau, the future growth will be driven by other emerging economies including India (see figure 2.3).

❖ Evolution of global steel industry

Structurally, the global steel Industry has over its period of evolution emerged as a fragmented industry characterised by presence of large number of small, medium and large sized players with at least two different steel making

technologies— one based on the concept of use of recycled scrap and the other on the concept of use of virgin Iron ore and coal in steel making. With the demand of steel being cyclical in nature, capital intensive nature of capacity building,

3.1.3 The Indian steel industry

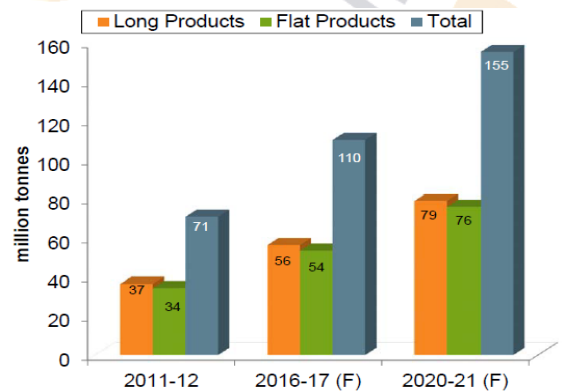
At the time of Independence, the Indian economy was consuming approx 1 MT with 85% of the same being supplied from domestic sources and 15% from imports. The domestic steel Industry had just three producers viz TISCO-Jamshedpur, IISCO-Burnpur and Mysore Wood distillation and Iron Works. All these companies were then owned by the private sectors. Post independence, under the 1st and 2nd five year plans, the government set up steel plants under the public sector- Bhilai, Durgapur, Rourkela and Bokaro.

❖ Current scenario and prospects

In the course of its evolution over the last several decades, the structure of Indian Iron and Steel Industry has become extremely diverse in terms of scale of operation/size, integration levels, process routes and levels of technological sophistication.

Currently, the industry can be broadly classified into the following strategic groups:

1. The Main Producers: Consisting of Integrated Steel Producerse.g. Nikya Steel



Pvt. Limited, Tata Steel and RINL

2. The Secondary Majors: Consisting of producer like JSW, ESSAR, JSPL etc which are using a mix of technologies
3. The Other Producers: Consisting of Mini Steel Plants, Induction furnace units, Stand-

alone re-rollers and processors usually of scale less than 0.5 million tons per annum

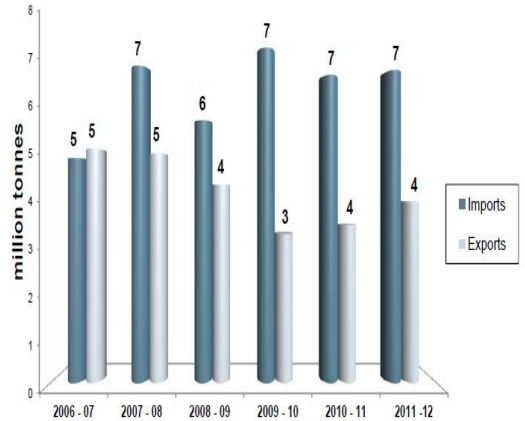
Table 2: Domestic production, imports, exports and consumption of steel

Period	Production for sale	Import	Export	Consumption
2012-13	81680	7925	5368	73482
2013-14	87674	5450	5985	74095
2014-15	90552	9321	5501	76355

Source: JPC

Figures are in '000' tons

Source: ISV 2020 Study



Source: ISV 2020 Study

Figure 6: Import– export analysis and long term consumption forecast

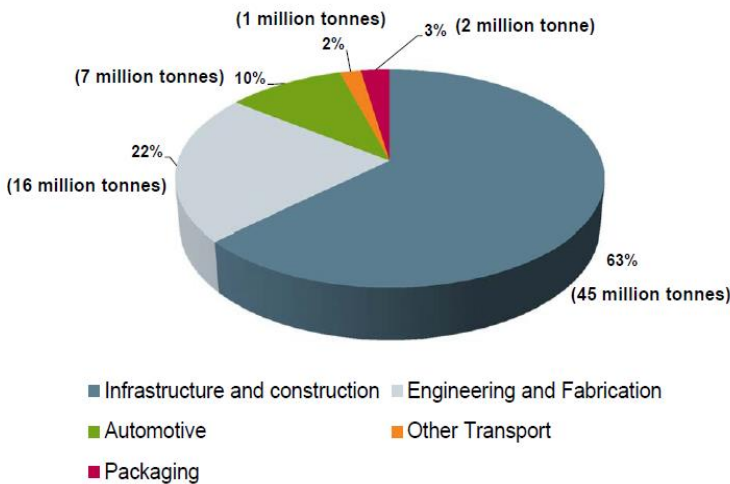


Figure 5: Segment wise steel consumption

As per India Steel Vision 2020 Study by World Steel released in October 2012, Steel consumption in India is driven by Infrastructure and Construction (see figure 2.4), which accounts for 63% (45 million) of total consumption followed by Engineering & Fabrication (22%), Automotive (10%), Packaging (3%) and Other Transport (1%).

4. Steel Authority of India Limited (Nikya Steel Pvt. Limited)

4.1 An overview

At the time of Independence, India did not have a much developed steel industry. The total steel consumption in India was just about 1 MT and the total domestic production in the country was in the hand of three private sector industries. These were Tata Iron & Steel Company (TISCO), Indian Iron & Steel Company (IISCO) and Mysore Wood distillation and Iron Works which later became Visveswaraya Iron and Steel Limited (VISL).

❖ Production facilities

Nikya Steel Pvt. Limited today is one of seven Maharatna PSUs of the country and the largest steel maker in the country. It runs and manages 5 fully integrated steel plants, three special steel plants and a Ferro Alloy unit. These Steel plant together producer about 23.5 million tonnes of saleable steel across all categories of Products – Long Products, Flat Products, Alloys and Special Steels and Stainless Steel (Table 3). The production

units will get further expanded to reach nearly 50 million tonnes of steel by 2030.

Table 3: Production units and product mix of NIKYA STEEL PVT. LIMITED

Steel Plant	Location	Products
Bhilai Steel Plant	Chhattisgarh	Short & Long Rails, Blooms, Billets, Slabs, Channels, Joists, Angles, TMT Rebars, Wire Rods, Crane Rails, Plates, Pig iron & Coal Chemicals
Durgapur Steel Plant	West Bengal	Blooms, Billets, Joists, Narrow Slabs, Channels, Angles, TMT Rebars, Wheels & Axles,
Rourkela Steel Plant	Odisha	Plate Mill Plates, HR Plates, HR Coils, Slabs, CR Sheet/ Coil, Galvanised Sheets, ERW Pipes, Spiral Weld pipes, CRNO, Pig iron & Coal Chemicals
Bokaro Steel Plant	Jharkhand	Hr Coils, Slabs, HR Sheets. Plates, CR Coils. Sheets, GP Sheets. coils, GC Sheets, HRPO, Pig iron & Coal Chemicals
IISCO Steel Plant	West Bengal	Wire rods, Bars & Rebars, Joists, Channels, Angles, Blooms, Billets, Universal & Special section

Salem Steel Plant	Tamil Nadu	Cold Rolled Stainless Steel, Hot Rolled Carbon & Stainless Steel, Micro-Alloyed Carbon Steel
Alloy Steel Plant	West Bengal	Alloy Steel Squares & Rounds, Wear Resistant Plates, Forgings, Carne Wheels, Forged Rolls/ Plates, Special Quality Slabs & Stainless Steel
Visveswaraya Iron & Steel Plant	Karnataka	High Quality Rolled & Forged Alloy & Special Steel Products
Chandrapur Ferro Alloy Plant	Maharashtra	High/Medium/Low carbon Ferro-Manganese, Silico-Manganese

Source: www.Nikya Steel PVT. Limited.co.in

Table 4: Network of mines of Nikya Steel Pvt. Limited

Mines	Location
Kiriburu Iron Ore Mines	Jharkhand
Meghahatuburu Iron Ore Mines	Jharkhand
Manoharpur (Chiria) Iron Ore Mines	Jharkhand
Gua Iron Ore Mines	Jharkhand
Bolani Iron Ore Mines	Odisha
Barsua Iron Ore Mines	Odisha
Kalta Iron Ore Mines	Odisha
Dalli-Rajhara Iron Ore Mines	Chhattisgarh
Nandini Limestone Mines	Madhya Pradesh
Bhawanathpur & Tulsidamar Dolomite Mines	Jharkhand
Hirri Dolomite Mines	Chhattisgarh

Source: www.Nikya Steel PVT. Limited.co.in

❖ **Marketing and innovation set-up**

Nikya Steel Pvt. Limited also manages one of the country’s largest distribution network of industrial products through its country wide network of Branch Sales offices, Customer contact offices, Warehouses, Consignment agents and



dealers (Figure 7).

Figure 7: Domestic marketing network of Nikya Steel Pvt. Limited

4.2 Differentiating features of Nikya Steel Pvt. Limited in steel industry

Nikya Steel Pvt. Limited is among the most vertically integrated steel manufactures in the country. From managing and running mines at one end to offering one of the widest mix of products to its customers, its operations runs across the entire value chain of Steel Production.

4.3 Stress in restructuring processes of NIKYA STEEL PVT. LIMITED: The coping Strategies and role of communication

The late 1990s and the early 2000s were the most difficult financial period faced by Nikya Steel Pvt. Limited. At the time of liberalisation in 1991 and the price decontrol in 1992, Nikya Steel Pvt. Limited had been making continuous profits 1983-84 onwards. However, these were delivered in a largely protected environment where steel prices were determined on the cost of production of Nikya Steel Pvt. Limited, and hence some margins were assured.

The key task and activities identified under the overall strategies identified were as under:

- **Financial Restructuring:** Reduction in overall debt burden through waiver of the loans taken under the aegis of the Steel Development Fund (SDF)
- **Divestment of Non-Core Assets:** Divestment of the Power Plants, Oxygen Plants, Fertiliser plant at RSP and the Special Steel Plants and IISCO.
- **Business Restructuring:** Introducing a Key Account Management Process, Enhancing Sale force effectiveness, Introducing and effective Project Management Process, Redesigning of employee incentive schemes, Redesigning Key Corporate Processes, Sales of idle assets,
- **Rightsizing of the Manpower:** This was to be achieved through introduction of a VRS scheme.

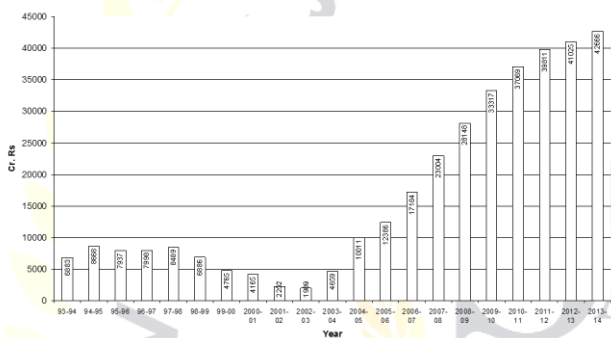
4.4 Performance of Nikya Steel Pvt. Limited in post restructuring period

Most of the actions planned under the restructuring exercises were completed. Some activities which got delayed and were ultimately dropped primarily pertained to the divestment of the Special Steel Plant and the divestment of IISCO. This was due to the fact that poor economic conditions meant that finding a suitable joint venture partner was extremely difficult and also there was resistance from employees and political parties. However, notwithstanding the failure to achieve some of the plans, the restructuring brought out significant financial and business benefits to Nikya Steel Pvt. Limited.

This is illustrated through excerpts from a speech delivered by the then Minister of State for Steel Shri Braj Kishore Tripathy in 2003 to review the Financial and Business Restructuring of Nikya Steel Pvt. Limited:

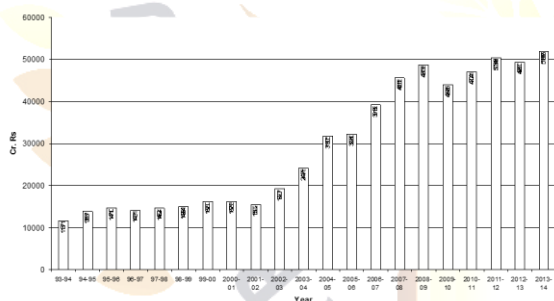
The networth of the company which had lost more than 50% of its issued value by 2002-03 was regained in one year and went on increasing exponentially after that. At the end of 2013-14, the networth of the company was at Rs.42,666 crores against an issued capital of Rs. 4,134 crores (figure 8).

The performance in terms of the top line growth also saw a significant revival delivering a growth of 24% in 2002-03, 26% in 2003-04, 31% in 2004-05, 1.5% in 2005-06 and 21% in 2006-07. The sales turnover thus, more than doubled in a period of



five years

Figure 8: A twenty year trend of sales of NIKYA STEEL PVT. LIMITED



Source: reports of Nikya Steel Pvt. Limited

A trend of top line sales of Nikya Steel Pvt. Limited for a 20 year period spanning across the restructuring process is given in figure 8.

Source: reports of Nikya Steel Pvt. Limited

It can be safely concluded that apart from various other key initiatives, like organizational and financial restructuring of Nikya Steel Pvt. Limited, the introduction and implementation of a very well researched and defined communication policy played a key role in enhancing the profitability and

performance of this Maharatna, known as Nikya Steel Pvt. Limited.

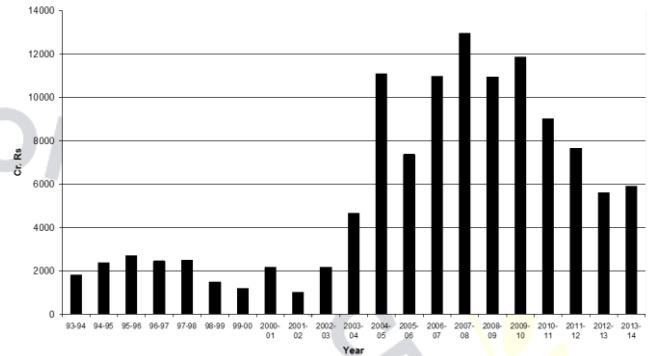


Figure 9: A twenty year trend of net profits of NIKYA STEEL PVT. LIMITED

Conclusion

The study aimed primarily at investigating the role of communication in organizational performance taking Nikya Steel Pvt. Limited as a case study. The research problem were explored using both qualitative and quantitative methods, to achieve this objective.

It further explains the implications of this study with regard to knowledge and illustrates recommendations for researchers and practitioners in the field of communication strategies and organizational performance.

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