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CONTENTS

Sr. No.	TITLE & NAME OF THE AUTHOR (S)	Page No.
1.	EXPERT EVIDENCE: RULE OF ADMISSIBILITY IN INDIA WITH SPECIAL REFERENCE TO BALLISTICS <i>BHAGWAN R. GAWALI & DR. DIPA DUBE</i>	1
2.	USING ARTIFICIAL NEURAL NETWORKS TO EXAMINE SEMIOTIC THEORIES OF ACCOUNTING ACCRUALS IN TEHRAN STOCK EXCHANGE <i>AFSANEH MIRZAEI, ALI REZA MEHRAZIN & ABULGHASEM MASYHAABADI</i>	4
3.	JOB SATISFACTION AMONG EMPLOYEES IN INDUSTRIES IN TAMIL NADU, INDIA <i>DR. ANTHEA WASHINGTON</i>	11
4.	THE ICT ENABLED BUSINESS TRANSFORMATION IN THE BANKING INDUSTRY OF SRI LANKA (A CROSS CASES ANALYSIS) <i>POONGOTHAI SELVARAJAN</i>	17
5.	THE NEED FOR ENERGY DEMAND SIDE MANAGEMENT IN COMMERCIAL AND RESIDENTIAL SECTORS IN NIGERIA <i>AHMED ADAMU</i>	21
6.	EMOTIONAL INTELLIGENCE, CUSTOMER ORIENTATION, ADAPTIVE SELLING AND MANIFEST INFLUENCE: A COMPLETE TOOL KIT IN MARKETING EXCHANGES FOR SALESPERSONS <i>ARSLAN RAFI, ZEESHAN ASHRAF, DILJAN KHAN, YASIR SALEEM & TAJAMAL ALI</i>	27
7.	PARADIGMS OF MODERN DAY MARKETING - A LOOK AT CURRENT SCENARIO <i>SUPREET AHLUWALIA & VIVEK JOSHI</i>	33
8.	MIS VS. DSS IN DECISION MAKING <i>DR. K.V.S.N. JAWAHAR BABU & B. MUNIRAJA SEKHAR</i>	39
9.	PRE-PROCESSING AND ENHANCEMENT OF BRAIN MAGNETIC RESONANCE IMAGE (MRI) <i>K.SELVANAYAKI & DR. P. KALUGASALAM</i>	47
10.	IMPACT OF SERVICE QUALITY DIMENSIONS ON CUSTOMER SATISFACTION OF SBI ATM <i>NAMA MADHAVI & DR. MAMILLA RAJASEKHAR</i>	55
11.	DEVELOPMENT OF LOW COST SOUND LEVEL ANALYZER USING SCILAB FOR SIMPLE NOISE MEASUREMENT APPLICATIONS <i>OJAS M. SUROO & MAHESH N. JIVANI</i>	62
12.	INFLUENCE OF DEMOGRAPHY ON STORE CHOICE ATTRIBUTES OF MADURAI SHOPPERS IN RETAIL OUTLETS <i>DR. S. SAKTHIVEL RANI & C.R.MATHURAVALLI</i>	67
13.	TRADE FINANCE AND METHODS & CHARACTERISTICS OF INTERNATIONAL PAYMENTS FOR INDIAN EXPORTERS <i>RAJENDRA KUMAR JHA</i>	72
14.	CUSTOMER SERVICE THROUGH THE BANKING OMBUDSMAN SCHEME - AN EVALUATION <i>DR. SUJATHA SUSANNA KUMARI. D</i>	78
15.	MEASURING THE FINANCIAL HEALTH OF SELECTED LARGE SCALE IRON AND STEEL COMPANIES IN INDIA USING Z-SCORE MODEL <i>DR. P. THILAGAVATHI & DR. V. RENUGADEVI</i>	82
16.	DESIGN AND DEVELOPMENT OF 4-TIER ARCHITECTURE OF VIRTUAL NETWORK MODEL FOR FINANCIAL AND BANKING INSTITUTIONS <i>SARANG JAVKHEDKAR</i>	87
17.	IMPACT OF FACE BOOK ADVERTISEMENT AND AWARENESS LEVEL AMONG THE CLIENTS WITH SPECIAL REFERENCE TO ERODE CITY <i>S.KOWSALYADEVI</i>	91
18.	HUMAN RESOURCES IN SIX SIGMA - A SPECIAL LOOK <i>DR. B.SUMATHISRI</i>	97
19.	MOBILITY AND RETENTION OF FEMALE FACULTIES IN PRIVATE COLLEGE <i>POOJA</i>	100
20.	EFFECT OF WORKING CAPITAL MANAGEMENT ON PROFITABILITY OF PHARMACEUTICALS FIRMS IN INDIA <i>NILESH M PATEL & MITUL M. DELIYA</i>	107
21.	AWARENESS OF TAX PLANNING - A STUDY WITH SPECIAL REFERENCE TO GOVERNMENT EMPLOYEES <i>DR. K. UMA & G. LINGAPERUMAL</i>	113
22.	A STUDY ON ADOPTION OF INTERNET BANKING AMONG STUDENTS IN INDORE <i>HARDEEP SINGH CHAWLA & DR. MANMINDER SINGH SALUJA</i>	117
23.	IMPACT OF MERGERS ON STOCK RETURNS: A STUDY WITH REFERENCE TO MERGERS IN INDIA <i>KUSHALAPPA. S & SHARMILA KUNDER</i>	124
24.	SECURING E-COMMERCE WEBSITES THROUGH SSL/TLS <i>PRADEEP KUMAR PANWAR</i>	130
25.	EFFICIENT ARCHITECTURE FOR STREAMING OF VIDEO OVER THE INTERNET <i>HEMANT RANA</i>	134
26.	A STUDY ON INDIAN FOREIGN EXCHANGE MARKET EFFICIENCY – APPLICATION OF RANDOM WALK HYPOTHESIS <i>ANSON K.J</i>	138
27.	AN EMPIRICAL ANALYSIS OF FACTORS AND VARIABLES INFLUENCING INTERNET BANKING AMONG BANGALORE CUSTOMERS <i>VIDYA CHANDRASEKAR</i>	143
28.	EMPLOYEE ATTRITION IN SOFTWARE INDUSTRY <i>I.NAGA SUMALATHA</i>	149
29.	IMPORTANCE OF XBRL: AN OVERVIEW <i>B.RAMESH</i>	154
30.	AN ANALYSIS OF ANEKA (CLOUD COMPUTING TOOL) <i>AANHA GOYAL & ANSHIKA BANSAL</i>	159
	REQUEST FOR FEEDBACK	163

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HUMAN RESOURCES IN SIX SIGMA - A SPECIAL LOOK

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ABSTRACT

Every business enterprise attempts to survive and grow. But survival and growth are becoming increasingly difficult in a global economy characterized by cut-throat competition, increasing costs, growing customer expectations, expanding power of labor, fast-changing technology, etc. Technological advancements have allowed companies to relocate operations at places with lower wages. As the centre of gravity in employment is shifting from manual workers to knowledge workers, new human resources practices and policies are needed. Six Sigma can be applied in all industries/companies as work always takes place in processes. A process with a Sigma level of Six generates a maximum defect probability of 3.4 parts per million. Six Sigma uses Project Teams to work on solving problems or improving processes in an effort to produce zero defects. The next wave in Six sigma is Lean Six Sigma. It is a methodology that maximizes shareholder value by achieving the fastest rate of improvement in customer satisfaction, cost, quality, process speed, and invested capital. So it can be concluded that if used intelligently Six Sigma can enhance results, dramatically by targeting improvements through breakthrough projects. It is the system that combines science, technology, quality and profitability. It changes the way a company works by pulling it into the cycle of culture change.

KEYWORDS

Breakthrough, Culture change, Defect-free, Knowledge-based worker, Lean Six Sigma.

INTRODUCTION

Every business enterprise attempts to survive and grow. But survival and growth are becoming increasingly difficult in a global economy characterized by cut-throat competition, increasing costs, growing customer expectations, expanding the power of labor, fast-changing technology, etc. Business leaders, experts, researchers are continually discovering new management techniques and practices to meet this challenge. Globalization and technological changes are causing significant changes in the nature of jobs and work. Technological advancements have allowed companies to relocate operations at places with lower wages. A major change in the nature of work is the shift from manual to knowledge work. Organizations are becoming increasingly knowledge-based wherein specialists direct and discipline their own performance through organized feedback from the customers and headquarter. In the knowledge economy, there is growing emphasis on human capital (the knowledge, education, training, skills and expertise of employees) in place of physical capital (equipment, plant and machinery, furniture). By the knowledge driven and service-oriented economy, jobs require greater brain power (skills, expertise and creativity). Thus in the changing economic scenario, jobs demand a certain level of expertise that is far beyond that required of most workers 20 or 30 years ago. This means that companies are relying more on employee's creativity and skills. i.e, employee's brain power. (Khanka.S.S ,2009)

CHANGE AGENT

Any organization that attempts transformational change will have to encounter many challenges. The success or failure of change efforts lies in handling these challenges. As the center of gravity in employment is shifting from manual workers to knowledge workers, the new human resources practices and policies are needed. Human resources professionals have a central role in this scenario. (Srinivasa.et.al, 2009). They have to play an active role as change agents in any programme of organizational changes and which the development involves human resource issues. They have to persuade, mobilize and negotiate people for change. For this purpose human resources professionals require diagnostic and behavioral skills. They must provide emotional support and reassurance to employees who feel stressed during the change process and thereafter. (Gupta.C.B, 2009)

Human Resources (HR) processes have a major impact on the employee's efforts for delivering services or product. HR people handle the responsibility of retaining the employees while balancing the financial needs of the company. Six Sigma has been around for over a decade and as such it has been deployed at lots of companies around the world. It can be applied in all industries/companies as work always takes place in the processes and the following holds true for every company (in any industry). Everything that anyone does is a part of a process. A process is efficient or inefficient depending on the output to input ratio (this ratio could be productivity measure, cost measure, time measure or any other useful metric). Very few processes are defect free and most have unacceptable levels of defects or delays (as per industry standards, companies own philosophy towards defects or based on customer expectations). Here, for many processes there is an internal customer (instead of or in addition to an external customer). Meeting customer (internal, external or both) expectations with reasonable cost is a key success criterion. Variation in process inputs or improper controls result in reduced efficiency or dissatisfied customers, which increases costs and breeds further inefficiency. Six Sigma requires that define success criteria for key processes, eliminate defects (or reduce their severity or occurrences), and measure outcomes for exceeding industry standards or creating new benchmarks, thereby leading to competitive advantage in terms of cost or value for customers. Project situations are common in companies and functions that carry out construction, commissioning and installations, software development, plant and machinery development and manufacture, research & development etc. Although these sectors have significant differences in challenges that they face, the common element is that they carry out projects and each project is unique in itself. (Abhishek Kamd, 2010).

CONCEPT AND SIGNIFICANCE OF SIX SIGMA

Six Sigma is a concept coined by the Motorola corporation to describe improvement initiatives which express process capability in parts per million. A process with a Sigma level of Six generates a maximum defect probability of 3.4 parts per million. Sigma levels of performance are also often expressed in Defects Per Million Opportunities or DPMO . It indicates how many errors would show up if an activity were to be repeated a million times, by factoring in opportunities for defects in the calculation. Six Sigma in many organizations simply means a measure of quality that strives for near perfection. It is also a disciplined, data-driven approach and methodology for eliminating defects in any process from manufacturing to transactional and from product to service. It is a business-driven, multi-faceted approach to process improvement, reduced costs, and increased profits. With a fundamental principle to improve customer satisfaction by reducing defects, its ultimate performance target is virtually defect-free processes and products. (Gupta. C. B, 2009). Its philosophies are related to statistical process control, stochastic control (relating to probability) and engineering process, control. In addition, it requires process and data analysis, optimization methods, lean manufacturing, design of experiment, analysis of variance, and statistical methods, mistake-proofing, on time and or on-schedule, waste reduction and consistency assurance.

Success in Six Sigma is dependent on an active senior management leadership and mentoring , an established infrastructure including, the so-called 'Judo-like black and green belts', a continuing project focus on 'bottom line' opportunities and results, with established teams trained in using a structured approach and methodology to achieve positive results. Six Sigma does not normally require significant capital expenditure other than for investment in the training and development of the participants in the process. It does, however, require long-term commitment from management in the on-going process of continual

improvement through active interest, support and review and the provisioning of appropriate resources. However, financial benefits should begin to be experienced with the completion of the first set of projects undertaken. Results, from organizations committed to the six sigma initiative indicate that the financial benefits make a very significant effort on the 'bottom-line' (William T. Truscott, 2009)

Six Sigma uses Project Teams to work on solving problems or improving processes in an effort to produce zero defects. Similar to Total Quality, Six Sigma differentiates itself by using statistical analysis of lots of data to help measure the current and desired outcomes of a process. Project Teams are comprised of individuals that are identified by their knowledge of Six Sigma concepts in the form of a ranking. Different belt colors signify different levels of interaction within a Six Sigma Team. Team members learn the roles and techniques needed for Six Sigma transformation in varying levels. The levels in Six Sigma are:

- White Belt - has been taught a high level overview of Six Sigma and how it works. A great introduction for all employees in an organization utilizing Six Sigma.
- Yellow Belt - considered a subject matter expert, these individuals have a specific knowledge about an area that might not be of primary focus on a Project Team, but bring specific knowledge about their function or area.
- Green Belt - usually earned by a project member who needs to have a good grasp of the Six Sigma concepts to be productive in Team discussions.
- Black Belts - are Team leaders who have learned Six Sigma techniques of facilitation in great detail. They are trained in change management and are taught leadership skills needed to run a successful Project Team.
- Master Black Belts - are individuals who are authorized to teach other Black Belts. They can also mentor and oversee projects using their deep understanding of the statistical needs of the Project Team. (Debbie Hatk, 2009)

RESOURCE COMMITMENT

The typical full-time commitment of personnel to Six Sigma efforts is roughly 1% of the company's population, though the situations where it reached 3% because there were sufficient opportunities for achieving significant gains. But far more important than the number of people, is the quality of the commitment. Black belts and champions must be full time to achieve sustainable results. Six Sigma requires that champions and black belts be selected based on their potential for becoming the future leaders of the corporation. So this makes managers, who have got to get out their billings, need to make sure the projects selected are of the highest priority to the organization and its customer's i.e. devoting current resources to the highest priorities based on their potential to contribute to shareholder value. Those projects always get a lot more effort than is currently the case, whereas lower-value projects may be delayed. Ultimately, the champion will present the opportunities to his Profit & Loss manager for approval. One of the benefits of selecting the future leaders as black belts and champions is that they will receive an exemplary experience in every facet of business management and effective use of resources. They will develop a customer-centric process, rather than a departmental view of the business. Further, the potential for fast-track advancement based on a few years' success as a black belt works to retain this intellectual capital of the corporation.

EXECUTION INFRASTRUCTURE

Six Sigma possesses an infrastructure that effectively translates the Chief Executive Officer's (CEO's) agenda into a customer-centric set of projects chosen to maximize shareholder value and provides effective management and monitoring of results versus plan.

- The corporate champions are armed with the CEO and Profit & Loss (P&L) manager's an agenda for financial performance and shareholder value increase.
- These strategic goals are translated to an operational agenda by the business unit champions (sometimes called 'deployment champions') who report to the P&L managers. These unit champions are trained in the methods of identifying key value streams and prioritizing projects based on net present value (their potential contribution to shareholder value). The P&L manager has the ultimate authority for value stream identification and project selection, since his or her commitment to the process is essential for success.
- The customer critical-to- quality issues and the time traps within the key value stream are developed into projects and then prioritized. These projects (to execute cost reduction, quality improvements, etc.) are then executed by the black belts, who have been trained in the tools and team leadership skills of Lean Six sigma.
- Projects sponsors (who are report to the P&L manager) own the process that is to be improved by a specific project. They have the specific authority to implement improvements and have ultimate long- term accountability for ensuring that the improvements and financial benefits stick.
- Implementation is accomplished by a mix of team members, including green belts (team members), black belts, and master black belts. Whereas the black belts and champions are assigned full time to improvement activities, the green belts who support black belt projects are generally part time and have received less training.

PREDICTING TEAM SUCCESS, PREVENTING TEAM FAILURE

The success of Six Sigma is ultimately dependent on the ability of teams to execute projects effectively. It might be thought that the assembly too many brilliant individuals would be a satisfactory approach, but that perspective has been proven false time and time again. Even the Six Sigma culture can't overcome poor team composition. Now the companies have a number of different psychological models which point in the same direction and provide insight into the prediction of team success and failure. One area of common agreement is that it is possible to get much better results from a team if each member is playing his or her "preferred role", and if there is a balance of these essential roles on a team. Inexpensive software is available which facilitating relatively simple testing, which makes it possible to determine an individual's preferred role, both in his eyes and those of his peers. To draw the best out of the team, master black belts and black belts must hone individual leadership skills, such as the ability to balance inquiry and advocacy in the pursuit of superior results from teams. So organization experienced in the implementation of Six Sigma programs have recognized the importance of team and individual leadership skills in the Six Sigma process and include training in this area as a basic requirement. (Michael L. Georg, 2002)

THE NEXT WAVE IN SIX SIGMA

In any organization customer satisfaction is the number one priority and which means profitability. The success of any company depends on the ability to ensure the highest quality at the lowest cost. In the 1980s, when most companies believed that producing quality products was too costly, Motorola believed the opposite: "the better, the cheaper". It realized that by producing a higher-quality product, the cost of producing goes down. Today the competitive market leaves no space for error. It is now necessary to implement the concepts of Lean Six Sigma. Lean Six Sigma is a business strategy in which the focus is to improve the bottom line and increase customer satisfaction.

The now-dominant standing of Lean indicates that companies are increasingly relying on that as the core foundation for their continuous improvement efforts to help them face the challenges of today's economic downturn. Six Sigma is one of the most widely recognized quality improvement methods used in businesses today. Lean up to this point is a discipline that has been used primarily in the manufacturing sector to focus specifically on process speed and efficiency. Specifically, it is the body of knowledge and tools businesses use to remove all non-value-added time and activity from their processes. Many companies often use Lean Six Sigma, to help meet their business goals and customer needs.

Trends in the industry are often telegraphed into candidate requirements in job postings, and they can serve as a window into the latest corporate initiatives. Demand for Lean talent has surpassed Six Sigma by a substantial margin as the more desired skill set, accelerating an already growing shift in talent demand toward Lean. The fusion of Lean and Six Sigma is that Lean cannot bring a process under statistical control and Six Sigma alone cannot dramatically improve process speed or reduce invested capital. Thus Lean Six Sigma is a methodology that maximizes shareholder value by achieving the fastest rate of improvement in customer satisfaction, cost, quality, process speed, and invested capital. It is a process capability that continuously improves the quality of the product and maximizes productivity. In simple terms, Lean Six Sigma is the following:

- It is a data-driven approach methodology to analyze the root causes of manufacturing and business problems/process of eliminating defects (driving, towards six standard deviation between the mean and the nearest specification limit), and dramatically improving the product.
- It improves the employees' knowledge of business management to distinguish the business from the bottom line, customer satisfaction, and on-time delivery. Thus Six Sigma is not just process improvement techniques but a management strategy to manage the projects to financial goals.
- It combines robust design engineering philosophy and techniques with low risks (Lean Six Sigma tools: Design, Measure, Analyze, Improve and Control)
- It would be very difficult to achieve this goal without team work and proper training of the entire organization to a higher level of competency. (Salman Taghizadegan,2009)

CONCLUSIONS

Six Sigma can be applied to any organization and to any area of an organization from Manufacturing to IT. Nearly 150 companies have so far successfully implemented the six sigma. If used intelligently Six Sigma can enhance results, dramatically by targeting improvements through breakthrough projects. No other system gives an integrated approach to what a company must do in order to satisfy the customer. It focuses on both top line and bottom line. The Six Sigma methodology provides a complete structures framework for implementation, with a cookbook step-by-step approach. Under Six Sigma, qualities becomes a tangible and measurable product. It is applicable to all processes. It identifies the root of the problem and then proceeds to remove it completely from the system. It is the system that combines science, technology, quality and profitability. It changes the way a company works by pulling it into the cycle of culture change. First, it changes the behavior of the people, who then translate this into better results for the projects that they work on. That, in turn, changes the corporate culture.

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