CHAPTER - II

REVIEW OF LITERATURE
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2. INTRODUCTION

With regard to the objectives of the study, this chapter presents a brief account of pertinent published research material by accredited researchers, professionals, industrialists and writers available on the research topic. Review of past research reveals some gaps which may be filled up by on ensuing attempt. There were a lot of productivity arguments and narratives of what was wrong while obtaining ISO certification, improvements in process, operational performance, changes in documentation, etc. But less literature was found that would help to understand the human element in the process of focusing ISO Certification than the process improvements. It is also possible to take some pointers regarding methodology and applications from published/accredited research supports. Also comparison of findings can be made through magazines, journals, publications, papers presented at various conferences, books, websites, reports, etc. have been extensively researched to gather background information for this research. This chapter gives a brief account of what has been happening in the arena of ISO certification and the changes that took place while implementing it.
The review of this study consists of the following major sections:-

Section 1 reviews relevant literature on quality management and identifies factors influencing the decision to pursue ISO certification.

Section 2 highlights the review in quality management and managerial effectiveness.

Section 3 gives an additional insight from previous research related to quality management and quality of work life.

Section 4 highlights the review perspective to paper industry.

The last section discusses the literature linking demographic factors to quality and HR perspectives as well as research gap and conclusion.

SECTION 1

The literature related to quality management which supports the second objectives are presented in the following section

2.1.1 Relationship between HRM and Quality

Mehra et al (2001) compiled an extensive review of TQM research by categorizing the factors into five key areas (1) human resource focus, (2) management structure, (3) quality tools, (4) supplier support and (5) customer orientation by suggesting that there are atleast 45 elements that affect TQM implementation 1.
2.1.2 Manager’s Paramount Role to Obtain ISO Certification

Burke and Litwin (1992) present a model of organizational performance and change that acknowledges the possible iterative relationships between many variables. In this model the external environment is seen as a primary driver for change. Mission, strategy, leadership, and organizational culture are viewed as being directly affected by forces in the external environment. They, in turn, affect structure, management practices, systems and work unit climate. These factors influence task and individual skills, motivation, and individual needs and values. Finally, changes affect individual and organizational performance².

Davenport (1993) suggests typical processes in manufacturing firms are Operating processes - developing new products, acquiring customer, identifying customers requirements, manufacturing integrated logistics, order management, post sales service and Management processes - performance, monitoring, information management, asset management, and human resource management planning and resource allocation. He says that each individual process is a complex set of activities that produces a range of output³.

Munoz and Ostwald (1993) developed a methodology for small manufacturers to use ISO 9001 requirements as a guide line for process improvement and described the main steps of methodology and the organizational structure to support it⁴.

Powell (1995) examined the impact of quality management on firm performance and found that some quality management practices did not have a significant impact on performance. He found that only three of his 12 quality practice variables are
significantly related to total firm performance. He concludes by suggesting that firms may be able to capture much of the benefit without subscribing to the full ‘TQM ideology’.

Flynn, Schroeder and Sakakibara (1995) studied quality management and performance relationship at the plant level. They created “SPC/feedback” which is desegregated into three finer constructs, a general tactic for an analysis recommended by Miles and Huberman (1994): Real-Time Feedback (RTF), In-Process Off-Line Feedback (IOF) and Overall-Process Off-Line Feedback (OOF). RTF has a higher diagnostic potential than Off-line feedback (IF and OOF). In turn, feedback from in-process stages (IOF) is more detailed and has a higher diagnostic potential than feedback from end of process stages (OOF). Their empirical research has revealed links between the overall use of quality management practices managed and firm performance, as well as continuous development of best practices in all the areas within a company. The model provided by Flynn, Schroeder and Sakakibara, Burke and Litwins, threw little insight into the questions of who was involved in the process, when they acted, where in the process they intervened, why they did so and how actual efforts for change succeeded or not. This was partly supported by Daven Port, Munoz and Ostwald. In contrast, Powell found no significant impact.

2.1.3 Quality Management Elevates the Growth of Industry

Pertaining to the second objectives, the studies related to quality management that brings growth of the industry in terms of (a) plant capacity (b) Assets (c) Sales (d) Profits (e) Market share (f) Number of innovations are presented as follows:-
(i) Plant Capacity

Harington (1991) drew up a list of 138 processes including review of product’s technical documentation, receipt of goods, shipment of finished products, payment of taxes, estimate of production costs, production planning, payment of wages, payment of suppliers, etc. According to him, one specific and well-defined output is paired with each individual process and the aggregating criterion of individual activities results in work flow interdependence.

Emam and Briand (1999) conducted an empirical survey in which they noted that the effectiveness of process improvement actions depended on the context in which the actions are performed. They also examined how each of the contextual factors, possession of ISO 9001 certification and organizational size relate to capacity level defined by ISO/IEC 15504. Harington (1991) suggested a criterion of individual activities that accounts for individual process. Emam and Briand (1999) explained how QMS focused on the continuous development of best practices in all areas within a company.

(ii) Assets

Lapide (2000) noted that financial accounting measures were critical factors to assess financial health. He stated that the two most important and fundamental measures or overall supply chain and performance should relate to (i) availability of products and (ii) the total costs.
Gunasekaran et al (2004) developed a measurement of frame work for supply chain performance. Their measurement creates a balance between financial and non-financial measures as they relate to the strategic, tactical and operational levels of decision making.¹⁰

Reed, Lemark, and Montgomery (1996), highlighted that firms with different strategic orientations (customer versus operation) achieve financial performance through different routes. The quality management effectiveness depends on the degree of fitness between firm orientation (with the associated quality management practices) and environmental uncertainty.¹¹

Anderson, Daly, and Johnson (1999) examined the profile of firms with ISO 9000 certification in the U.S., and found that, although government requirements and export considerations were significant drivers of certification, the search for internal quality improvements and cost reductions were also significant. They concluded that ISO 9000 did have quality implications, and factors other than this also contributed to quality improvement adoption.¹²

Adam (1994) found a statistically significant relationship between human resource management practices and the previous year’s return on assets (ROA), but the level of variance was low.¹³

On the contrary, Reedy (1994) argues that the ISO 9000 is having an adverse effect on industry as it increases operations costs and reduces product quality. He
warns that knowledgeable organizations are moving in a different direction from the ISO 9000\textsuperscript{14}.

Almost all the researchers cited above, prove that working more closely with suppliers to accomplish quality management objectives was statistically related to perceive financial performance but Reedy found adverse effect of this.

(iii) Sales

Itner and Larcker (1997) surveyed responses on the use of quality management practices by companies in the automotive and computer industries to pretax measures of return on assets (ROA) and returns on sales (ROS). Their findings varied by outcome measure by the industries. In the automotive industry, process improvement techniques and involvement of customers and suppliers in strategic planning were related to ROA, but none of the quality practices were related to ROS. In the computer industry, greater customer and supplier involvement in strategic planning and the use of SQC were related to higher ROA. However, closer supplier relationships and increased employee empowerment were related to lower ROA. Itner and Larcker’s findings do not appear to be a consistent combination between quality management practices and return on assets and sales\textsuperscript{15}.

(iv) Productivity

Meadows, Robert Eugene (1981) found that quality standards influenced productivity significantly. Further, they observed that the impact of quantity standards was dampened considerably by the introduction of precise quality standards. The
influence of quality was pervading overtime. Group incentives influenced productivity by giving increasing importance to quality standards. \(^{16}\)

**Andiorio, Joanne Marie** (1984) found that participating in a quality circle had a positive impact on creativity, productivity, organizational structure, communication, conflict management, human resource management, participation and leadership.\(^{17}\)

Conversely **Juravich, Thomas** (1984) has observed that no serious improvements in productivity and quality will be made until workers' knowledge and experience are built into productive practices and workers themselves are allowed more democratic participation in the industrial work place.\(^{18}\)

Meadows, Robert Eugene, Andiorio, Joanne Marie found correlation between productivity and quality management but Juravich, Thomas proved that without employees' perception on standards, quality management practices become difficult.

(v) Market Share

**Tan et al** (1999) studied whether specific TQM and SCM practices, such as quality practices, customer relations practices and supply base management practices affected firm performance as measured by using corporate indices such as ROA, market share and overall competitive position. They found that management responsiveness to firm's competitive environment, involvement and effectiveness, management understanding of and use of TQM tools and customer focus are positively affects performance. **Tan et al,** (1999) bridge Quality Management and supply chains and corporate indices.\(^{19}\)
(vi) Number of Innovations (R&D measures)

Mohamed Zairi (1995) observed from the Department of Trade and Industry in UK that those who had initiated a score board of R&D as its part of strategy are encouraging innovations in UK. The benchmarking indicators are (i) current expenditure (ii) R&D expenditure per employee (iii) R&D as percentage of sales (iv) R&D as percentage of profit (v) R&D as percentage of dividends and (vi) percentage of sales per employee. Further, he commented that one of the problems associated with R&D is the level of secrecy surrounding what takes place inside the laboratories and R&D departments.

Anderson et al (1999) tested the significance of (i) the number of patents issued between 1987 and 1994, divided by sales revenue to scale for firm size (PATSALE) and the ratio of research and development spending to sales revenues (RDSALE). Their studies revealed that PATSALE was statistically insignificant and RDSALE are found to predict rejection of ISO 9000. Mohamed Zairi and Anderson et al, indicate that R&D inventions for key strategic business issues need to be an integral part in over all business.

2.1.4 Factor Structure of ISO

(i) Policy Commitment

Ahire and Dreyfus (2000) tested a structural model exploring the relationships among design, management, product design, performance, quality training, and process quality management, internal and external quality. In their study, internal quality incorporated self-reported changes in scrap rate, rework, defect rates, productivity and
product reliability. The results show that process quality management and product design management have positive effect on external quality. Ahire Dreyfrus (2000) shows how internal quality incorporation brings changes in quality outputs. 

(ii) Personnel Training

**Subramanian and Sajjan Rao** (1997) aimed at testing the effectiveness of an integrated training intervention strategy based on the concept of self-fulfilling prophecy, designed and tailored to address the situations and personal factors that contribute to the problem. The effectiveness of the intervention identified on six indices namely overall job performance, disciplinary records, adaptability, morale, inter-personal relations and self-esteem. In the pre-and post-training phases revealed that low performers recorded significant improvements on both performance and discipline. After that changing efficacy and outcome expectations could result in new and more effective job behaviour. Subramanian and Sajjan Rao (1997) identified intervention factors that facilitate effective job performance.

**Depew and Dennis Ray** (1987) examined the effect of SPC training for Production Operators on product quality and productivity. They found no significant impact on product quality and productivity from SPC training.

**Atul Gupta** (2000) found differences between ISO and non-ISO organizations in regards to training. Mean scores indicated that ISO organizations emphasized more on training.
Giesler and Justus (1998) concluded that effective training with employee involvement was the most efficient means of initiating quality improvement program.26

(iii) Work force Commitment

Dow et al (1999) measured the relationship between quality practices (core) and quality performance (infrastructure). The core factors are advanced manufacturing systems, just-in-time principles, benchmarking, personnel training and the infrastructure items are shared vision, workforce commitment, use of teams, customer focus, supplier relations. Of the nine factors, only three of the quality practice constructs (customer focus, work force commitment, and shared vision) had significant positive association with quality outcomes. Dow et al (1999) measured the relationship between quality practices and quality performance.27

(iv) Task Assignment

Kotter and Heskett (1992) have indicated that quality culture should focus a collective or shared learning of quality-related values when the organization develops its capacity to survive in its external environment. These values are formed in a group over a period of time and can be seen in the ideology, philosophy, charter or basic credo of an organization. These values, in turn, result in artifacts and creations of the groups, which can be easily detected by observing the organization’s managerial processes, systems and human relationships. They provide a comprehensive critical analysis of how the culture of an organization influences organizational performance. Kotter and Heskett defined organizational culture as having two levels, which differ in terms of their visibility and their resistance to change. At the deeper and less visible level,
culture refers to values that are shared by the people in a group and tend to persist over time even when group membership changes. At this level, culture can be extremely difficult to change in part, because members are often unaware of many of the values that bind them together. At the most visible level, culture represents the behaviour patterns or style of an organization that new employees are automatically encouraged to follow by their fellow employees. 

(v) Quality Responsibility

Evans and Dean (2000) commented that there were as many different approaches to TQM as there were businesses, but most of them shared with basic elements of (1) customer focus, (2) strategic planning and leadership, (3) continuous improvement and learning, and (4) empowerment and team work. Evans and Dean (2000) pictured the elements of TQM in most businesses.

(vi) Process Management

Jeffrey H Hooper (2001) developed a methodology for process management in a series of steps to (1) establish the responsibilities for managing the process (2) define the process (3) identify customer requirements (4) establish measures of process performance (5) compare process performance with customer requirements (6) identify process improvement opportunities and (7) improve process performance. Further, he explains the process approach by the following four categories of interrelated processes (1) management responsibility (2) resources management (3) product realization (4) measurement, analysis and improvement. He concludes that process based continual
improvement make QMS's a powerful way to manage organizations for achieving performance excellence.  

SECTION 2

2.2 QUALITY MANAGEMENT AND MANAGERIAL EFFECTIVENESS

In concerning with the third objectives of the study, the studies linked with quality and managerial effectiveness are displayed in the following mode for a clearer picture.

2.2.1 Relationship between Quality Management and Managerial Effectiveness

Yeung et al (2003) studied how gaining ISO 9001 registration affected the development of quality management system and how it subsequently affected organizational performance. They found that the effectiveness of an ISO 9001 quality management program was highly dependent on the attitudes and commitment of the senior management.

Terziovski, Power and Sohal (2003) studied the effects of ISO 9000 certification process on business performance. Their findings showed that there was significant and positive relationship between the manager’s motives for adopting ISO 9000 certification and business performance. But, auditing style was found to have an insignificant effect on business performance.

Tan et al (1999) conducted a survey of directors and vice presidents from a broad range of quality adopted industries and concluded that successful managements have well-defined linkage between TQM practices and performance and serve as key to
long-term success. They found that management’s responsiveness to firm’s competitive environment; involvement and effectiveness; management understanding of and use of TQM tools; management of supply base and customer focus are results in positively affected performance.

2.2.2 Managerial Effectiveness

Managerial effectiveness is reviewed in terms of (a) Absenteeism (b) Training (c) Efficiency ratios are exhibit as follows

(i) Managerial Effectiveness in terms of Absenteeism

Uddin (1991) alleged that the public sector managers failed to meet the expectations mainly because of inefficient management. He also showed that public sector industries suffered from the absence of dedicated, professionalized, and efficient managerial workforce. Froidoraux (1973) concludes that absenteeism is not just the result of the employee’s sickness or fatigue but a sign of bad management or bad personnel policies. Uddin and Froidoraux indicate that bad managerial role leads to absenteeism and it has a hidden area for managerial performance.

(ii) Managerial Effectiveness in Terms of Training

Bounds and Gregory Milliard (1988) indicated that supportive management and training quality were related to improved average uptimes of machines. They suggested that only participation was consistently related to improved quality cost. Stiber and William George (1991) concluded that for effectively implementing quality training efforts, the person who was responsible for initiatives must be concerned with
securing top management support during the training process and reinforcement of the skills was included in the training in any internal performance appraisal.

Bounds, Gregory Milliard, Stiber, and William George explained how well training fosters productivity and quality performance.

(iii) Managerial Effectiveness in terms of Efficiency Ratios

Roesenwieg et al (2003) found that quality, delivery, reliability, flexibility, cost and leadership had integration intensity and positive performance effects on highly integrated supply chains. Roesenweig indicates that realm of intensity factors support supply chain management.

Katz et al (1985) studied relationship between performance of industrial relations systems, quality of work life involvement, environmental factors and economic performance. Their results show that controlling environmental factors provides an association between both rate of disciplinary actions and salaried worker’s attitudes and direct labour efficiency. Moreover, in their regression analysis, the industrial relations measures explained a large part of variation in direct labour efficiency and product quality.

2.2.3. Factor Structure of Managerial Effectiveness

(i) Quality Policy

Edwardson et al (2000) argued that in order to achieve designed-in-quality, people must agree on the service concept and share the same values. One important step in achieving this was the creation of a mental model that was common throughout the
entire organization. It must be shared by everybody in the team who had a key role in a service culture\textsuperscript{40}.

(ii) Human Resources

M. Kameswarar Rao (2003) categorized the dimension of quality of work life aspects as pride in the organization, people orientation, work environment, openness/trust, interpersonal relations, communication, motivation, job security and occupational stress and concluded that maintenance of man to man relationship was equally important as employees were dependent on their boss\textsuperscript{41}.

Snell and Deen’s (1992) findings show that manufacturing practices and human resource management practices are often in concert and suggested that managing the process involves managing both technical aspects and human aspects of process\textsuperscript{42}.

(iii) Customer Focus

Danny Samson and Mile Terziovski (1999) examined the relationship between TQM Practices and operational performance at individually and collectively firms performance. They found that the elements of leadership, management of people and customer focus of TQM are the strongest significant predictors of operational performance but the other three categories of strategic quality planning, information and analysis, and process management did not\textsuperscript{43}.

(iv) Management Control Process

Sitkin, Saraph, and Schroeder (1994) divided Quality Management into two conceptually distinct approaches: total quality control (TQC) and total quality learning
(TQL). The TQC approach is based on the principles of cybernetic and control systems and is considered the most suitable contexts in low uncertainty. The TQL approach is oriented toward the uncovering of new problems or developing solutions independent of current problems, emphasizing second order learning and creativity that is considered more suitable for fundamentally uncertain contexts, in which tasks are poorly understood. They proposed a contingency model of Quality management effectiveness, according to which effectiveness depends on the degree to which the balance between the TQC and the TQL approaches matches the level of situational uncertainty of the organization. Sitklin, Saraph and Schroeder proposed a contingency model on total control and total quality learning.44

(v) Infra Structure

Dow et al (1995) categorized the role of quality management practices into core and infrastructure and concluded that among five infrastructure practices only three of them create supportive environment for the use of core practices.45

Angell and Klassen (1999) found that environmental considerations were relevant at multiple levels of organization encompassing operations strategy, structural and infrastructural dimensions, and the broader value chain of customers, suppliers and other external stakeholders. Further, their infrastructural decisions included those relating to suppliers new products, work force, quality management and planning and control systems. Dow et al, Angell and Klassen explained how quality and customer-supplier chain is enhanced due to infrastructure and environmental factor.46
Methods of Communication

Elmuti (1996) believed that the ISO: 9000 improved operational efficiency and communication within organizations and provided uniform products and a competitive edge, and hence resulted in greater customer loyalty, market share and even higher stock prices.47

Pagell, Lepine (2002) found that informal modes of communication largely functioned on three contextual factors viz (1) the physical layout of a facility (2) the structure of work and (3) work rules. But they found discouraging reasons for informal communication in physical proximity, danger, cost of clearing the work area, management philosophy and union work rules.48

Elmuti (1996) proves that operational efficiency and communication are attained through ISO certification. Pagell and Lepine (2002) found communication as an contextual factor and its causes for the managerial functions in the organization.

SECTION 3

2.3 QUALITY MANAGEMENT AND QUALITY OF WORK LIFE

In concerning with fourth objectives, the studies related to quality and quality of work life are reviewed and portrayed in the following section.

2.3.1 Relationship between Quality Management and Quality of Work Life

Kunal Kamran (1993) assessed the benefits of TQM practices in several organizations. He found that the success behind the TQM driven companies was the
personal change in the integral part of the transformation process. The five parameters of customer satisfaction, revenue, operating profit, market share and employee morale had a positive correlation on the performance when TQM principles were adopted marginally. The success rate resulted in operational cycle time by improved productivity, fewer defects, customer satisfaction and retention and also organizational climate by higher morale, lower turnover and quality of work life. Kunal Kamran cited critical factors that contributed to transformation process and their relative organizational success in organizational performance. 

2.3.2 Quality of Work Life

Quality of work life studies done in the areas of (a) Safety (b) Production and (c) Manpower are focused in the present study and are presented as follows:

(i) Quality of Work life in terms of Safety

Samson and Terziovski (1999) measured people management and its relative performance by considering the focus on safety, training, development, communication, multi-skilling and employee flexibility, employee responsibility and measurement of employee satisfaction. Their results proved that factors are strongly significant and positively related to performance. Samson and Terziovsky measurably proved that quality of work life is enhanced through certain organizational factors.

(ii) Quality of Work Life in Terms of Production

Rui and Christopher (2001) examined that quality management and management theory are essentially similar areas. They initiate that management theory
could offer insights into quality management notably strategic quality planning and human resource management. Furthermore, the areas of discrepancy between quality management and management theory are where quality management raises questions for further development in management.\textsuperscript{51}

\textbf{Gotzamani and Tsiotras} (2001) researched the role of ISO 9001 implementation on firm performance and concluded that process management was the standard’s most important contribution. They looked at the importance of the ISO 9001 standard as an entry key to TQM and performance improvement. Rui Christopher and Gotzamani state that quality management practices matching the manufacturing strategy lead to an increase in individual performance.\textsuperscript{52}

(iii) Quality of Work Life in Terms of Manpower

\textbf{Hostage} (1975) found that if the components of individual development, management training, manpower planning, performance standards, career progression and profit sharing were properly developed and implemented appropriately, a superior quality of operation could be expected in any service organization. Hostage indicates that individual empowerment on quality leads to superior quality operation.\textsuperscript{53}

2.3.3 Factor Structure of Quality of Work Life

(i) Recreational Facilities

\textbf{Lansburry} (1974) noted that poor social environment and bad working conditions led to low quality of work life. He suggested improved communication; better training, recreational facilities, flexible working hours and job redesign to
enhance quality of work life. Lansbury (1974) listed the working conditions that create social environment and good working conditions.

(ii) Interpersonal Relations

Samson and Terziovski (1999) addressed how well the human resource practices tied into and were aligned with the organizations' strategic directions. They found that human resource management had the combined impact of TQM training, communication, and involvement programs. Samson and Terziovski (1999) predicted the relationship between Human Resource Management and Total Quality Management.

(iii) Work Standards

De (1984) worked on productivity criteria in different industrial, commercial, and service organizations and found that the grass-root employees responded positively to work-related issues. But there were limited signs of progress towards quality of working life. De (1984) indicates that personal practices may signal quality of work life.

(iv) Management Attitude

Longenecker and Scannell (1993) studied the perceptions of the organizations' quality improvement process. They found that when management failed to create a good climate by adjusting its style and ongoing managerial practices, TQM implementation was unsatisfactory. Longenecker and Scannell (1993) found that with bad managerial practices there were unsatisfactory results in TQM implementation.
Gani and Riyaz Ahmad (1995) conducted a study on a large central public sector undertaking located in Jammu and Kashmir. He examined at empirical level of various components and correlates with QWL in course of deriving their basis from theoretical expositions and empirical studies. These were combined in four categories: Working Environment Factors, Relational Factors, Job Factors, and Financial Factors. The study unfolded a grim story of the economic and living conditions of the workers. The results drew attention to the fact that adequate financial returns from the job, besides a desire for job security, better working conditions and advancement opportunities continued to be the major considerations in employees' working lives. Gani Riyaz Ahmad found that financial returns play a more important role than the working environment.

(v) Social Responsibilities

Davis (1977) identified eight psychological requirements of working people that cautioned differentially at different work place. The six factors were (1) the need for variety in the content of a job (2) the need for being able to learn on the job and to go on learning (3) the need for some minimal area of decision-making that the individual could call his own (4) the need for some minimal degree of social support (5) recognition in the work place (6) the need for the individual to be able to relate what he did and what he produced to his social life (7) the need to feel that the job leads to some sort of desirable future and (8) the need for an individual to know that choices are available on the organisation.
Bhardwaj (1983) studied the adoption of quality of working life principles to the Indian situation states. His findings stated that the quality movement in India offered a value-frame and a social technology of organizational change, leading to task effectiveness of micro-entities through utilization and unfolding of the human potential.

Davis (1977) identified eight psychological factors supports to enhance quality of work life. In order to obtain further evidence regarding the relative effectiveness of quality of work life with socio-technical indicators, Bhardwaj (1983) measured social indicators that influence the quality of work life.

(vi) Motivational Factor

Jones et al (1997) used a survey of 272 Australian ISO-9000 certified companies to study the relationship between motivation for certification and perceived benefits. Based on hypothesis testing, they concluded that developmental companies that obtained ISO 9000 certification to improve their internal operational performance experienced a wider range of beneficial outcomes than non-developmental firms that obtained certification to satisfy customer requirements. Further, they pioneered empirical work that supported the argument that the benefits of ISO 9000 certification might be influenced by a company’s management objectives for obtaining the certification. Jones et al (1997) explained how ISO 9000 certification motivated and influenced the company’s management objectives.
SECTION 4

4. PULP AND PAPER INDUSTRIES

In the following section the studies relevant to pulp and paper industries are presented below.

Graham Moore (2000) found that changes in world level, rapid technological advances, and changes in demographics, societal and business behaviour and environment would have a major impact on the pulp and paper industry\(^6\).\(^2\).

Mall (2001) found that paper production in India was around 3.8 million tonnes per year. Indian pulp and paper industry had a capacity of around 7.4 million tonnes of paper and newsprint per year and he classified Indian paper industry as wood based, raw material based and wastepaper based\(^6\).\(^3\).

Ted McDermott (2000) found that the adoption of standards of information transfer to and from internet based applications would greatly enhance the chances of achieving a true value chain\(^6\).\(^4\).

Arivazhagan and Sudhakar (2002) found that Indian pulp and paper industry had good developments in supply chain management but lacked latest information technologies, automations and infrastructure for embracing e-commerce\(^6\).\(^5\).

Kuisma Mika (2004) studied the contradictions between competitive and institutional pressures and their influence on the organization and management of companies was studied in the context of the international pulp and paper industry. The
focus of the empirical study was on the environmental management of pulp and paper companies. The environmental management of the companies was analyzed on three levels: environmental performance (emissions and the use of resources), environmental policies (e.g. certificates) and environmental legitimacy (the environmental image of the companies). The findings of the study indicated that the overall environmental performance of the companies analyzed improved during the late 1990s. However, in some cases, decoupling between formal environmental policies and actual environmental performance existed.

Siitonen and Silja (2003) studied the impact of globalization and regionalization strategies. The first objective of the study was to explore the development of globalization and regionalization within the pulp and paper industry during 1990-1998, and to define the drivers pushing companies towards globalization. Another aim was to determine the objectives pursued by the top 100 pulp and paper companies in the globalization and regionalization process. The third objective was to determine whether the initial drivers and objectives, and the resulting outcome of the companies differed from each other, and if so, how and why. The fourth and ultimate objective of the study was to determine what kind of impact due to different globalization and regionalization strategies had on the pulp and paper companies’ performance. The study suggested that company performance correlated positively with the progress of globalization. The study also showed that North American globalizing and global companies were better valued than their competitors in Europe or Asia, where investors did not put a premium on companies with a more global size.

Graham Moore and Mall (2000) indicate that there is a major impact of technology on
pulp and paper industry. Ted, Arivalzhagan and Sudhakar indicated that quality management brings improvement in infrastructure in supply chain management. Kuisma indicated competitive and institutional pressures for business performance whereas Siitonen and Silja explained the drivers pushing companies towards globalization.

SECTION 5

5. DEMOGRAPHIC FACTORS

The present study make an attempt to draw relation between quality and demographic factors is described as below

**Ekramul Hoque** and **Alinoor Rahman** (1999) in their study attempted to assess and compare the quality of working life of industrial workers according to the nature of the organizations (public and private) and to measure whether there was any significant relationship among QWL job behavior (i.e. performance, absence and accident) and demographic variables (i.e., age, education, experience and income) of the workers. The results revealed that a) workers of private sector textile mills perceived significantly higher QWL that their counterparts in the public sector b) QWL had significant positive correlation with performance c) QWL had significant negative correlation with absenteeism and accident and d) QWL did not differ significantly according to demographic variables of the workers.

**Conlon, Devaraj, and Matta** (2001) examined the relationship between quality (represented by consumer ratings) and quality related activities by the customer
(represented by maintenance activities) in the automotive industry. The results of structural equation analysis of the proposed model indicated a significant link between quality and customers' quality behavior. Further, the demographic variables of age, income, and education would affect maintenance both directly and through the mediation of quality. They found that age had no relationship with maintenance but they found evidence of predicted relationships for both education and income. Education did not have direct relationship with either maintenance measure; it was positively and significantly related to quality rating. Income was not related to quality rating, but was negatively related to archival maintenance.

**Ganguli** and **Joseph** (1976) studied the quality of work life among young worker in Air India with special reference to life and job satisfaction issues. Their findings indicated that the various physical and psychological working conditions, pride in organisation, job earned community respect, reasonable working hours, etc. are more positively correlated with job satisfaction than friendship with colleagues, good work location, physical strain, variety of skills and risks of injury. Further, family ties and rural background were more positively correlated with life and job satisfaction, but expectation and aspiration of young workers affected that quality of work life.

**Ekramul Hoque and Alinoor Rahman** (1999) found that quality of work life did significantly affect demographic factors. But Canlon et al found demographic factors indirectly affect quality of work life.

Hence, the issues such as (i) to measure the quality management/environmental management in terms of HRM and (ii) to explore what conditions managerial
effectiveness and quality of work life accounted for under beneficial of quality management/environmental practices, are to be intensively researched.

6. RESEARCH GAP

Quality has resulted in a plethora of literature in the area of applications; however its review reveals that, there has been little effort as far as the Indian context is concerned. Some researchers have placed expectations for future research:

- The success behind TQM is that personal change is the integral part of the transformation process which may result in quality of work life but how the personal change influences the quality of work life is not paid attentions and is also not backed by anecdotal support.

- The result of cost on quality may improve operational efficiency, internal quality improvements, return on investment market share, etc. All these may be of little use in prescribing actions to enhance the performance of measuring training cost effectiveness. The work can be thought of as an extension of the research being conducted on training cost effectiveness in different forms in the quality literature.

- Productivity may have positive impact on quality circle, quality standards etc. More specifically researchers have tended to relate quality and productivity and ignored variables related more directly to the labor productivity and total productivity factors. However productivity can rise due to quality has little empirical backing in the literature.
In case of quality and organizational performance, the prevalent view seems to be that implementation difficulties are part of moving the organization toward quality and alternatively proves that those difficulties result from mismatch between the proposed form of quality management and the particular organizational context, however to what extent managerial performance involved to solve the implementation difficulties underlying structural mismatch between the proposed form of quality management and organization context is expected for future research.

Quality and social recognitions shows that recognition are often judged by comparing the work benefits against prior expectations but the issue of how the gains are judged by society has not yet been extensively explored in the literature.

Quality and human resource management studies rarely provide objective data backed by statistical evidence to support the human resource claims. This hopefully will help move the discussion on human resource potential of quality management in terms of effectiveness to hard and rigorously tested facts instead of perceptual and anecdotal data.

Quality and training shows that training practices may lead to improved quality performance but there is no clear direction on which training practices lead to improvement on quality performance and under what conditions.

Quality and managerial effectiveness studies explored the relationship between managerial performance and quality but failed to confirm strong relationship
between the adoption of quality management practices and managerial effectiveness.

- The review of paper industries shows that how the Indian industries are classified and developed, competitive pressures on organization and management etc but how quality management enhances HRD such as absenteeism, productivity, managerial effectiveness and quality of work life etc., is still unbound area of research.

7. **CONCLUSION**

The foregoing review exemplifies the fact that research on quality management, environmental management, quality with managerial effectiveness and quality with quality of work life has been discussed at length. None of the research shows the integrated approach of these three dimensions. Such studies can be a valuable guide for the companies seeks out for ISO certification. Hence, the present study makes an attempt to fulfil this gap.
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