Comparative Study Of Stressors In The Manufacturing And Service Sector: A Literature Review

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Abstract

Stress in human beings is a phenomenon which has been present since ancient time. Ancient man also faced stress but it was not documented. The documented evidence of stress began with stress researchers like Hans Selye and W.B.Canon which was taken further by other researchers like Chris Argyris and C.L.Cooper. This paper compares the stressors in the manufacturing and service sector. Manufacturing sector and service sector have different characteristics and hence a different set of stressors. Stressors in the manufacturing sector are related to human-machine interaction and stressors in the service sector are related to human –human interaction. Hence nature of stressors varies according to nature of work. The paper also studies the transition in stressors with changes in technology and nature of work. It shows how research on stress has moved from physical conditions to psychological factor, from physical labour to emotional labour. The difference in stressors also suggests that focus of stress intervention strategies should be different in both sectors.

Keywords: Stressors, Psychological Factor, Human-Machine Interaction, Service Sector, Manufacturing Sector.

Introduction

Manufacturing is the making of goods by hands or machine that are intended to be sold to consumers upon completion. Manufacturing roles encompass [1]tasks such as machining and craftsmanship, laboratory operations in chemicals and pharmaceuticals, food processing, electronics assembly, and engineering positions, among others. On the other hand, the service sector comprises trade, hospitality, transportation, warehousing, communication, financial services, insurance, real estate, business services, community services, social services, personal services, and construction.

The manufacturing and service sector have different characteristics and hence a different set of stressors. Hence before getting an insight into the stressors in both the sectors it is imperative to understand their peculiar characteristics. It is thus important to identify the differences between the two. Mentioned in table 1.

Table 1. Difference between the manufacturing and service sectors.

	Service sector characteristics

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Manufacturing sector characteristics	
1)The inputs used in manufacturing are Material Machine Method Technical Skills Quality Measurements Physical Environment	1)The inputs used in service sector are Information Tools/Systems Approach Interpersonal skills Time measurement Work environment
2) Dominance of technical skills in the work force	2) Dominance of technical as well as soft skills in the work force
3) Physical Working conditions are not very comfortable because of heat, temperature, noise, Vibration on the shop floor.	3) Physical Working conditions are comfortable as customer is part of the service station.
4)Manufacturing jobs are more risky as they involve use of machines, chemicals etc.	4)Jobs in service sector are less risky as they do not involve machines and chemicals etc.
5)Critical aspects of manufacturing are tangible	5) Intangible elements dominate value creation in the service sector.
6) Quality control is easier as product is tangible.	6) Quality control is difficult because of intangible concept. Standardization of quality in service inputs and outputs is difficult because of the presence of the human element in the operational system.
7) The concept of inventory and buffer is prevalent in the manufacturing sector. Products can be produced and stored.	7) Service is transitory and perishable so it cannot be stored as inventory after being produced.
8) Manufacturing process leads to standardization of products.	8) There is variability as per requirement of customer.
9) Correcting errors is more manageable in the manufacturing sector due to the temporal separation	9) Rectifying mistakes is not possible because service production and consumption is taking place at the one time

between production and consumption.	
10) Customer involvement in the production process is not there.	10) Services like hotels, hairdressers, hospitals, colleges require the presence of customers to provide the service.
11)HR in a manufacturing firm is like firefighting. There is a large no of employees who have very tactical needs with regard to compensation, benefits, employee and labour relations. People prefer answers right now because they have to return back to the equipment to work. Workers approach HR through unions. Employees bargaining power is higher in manufacturing.	11)HR in a service company feels more like strategic planning. Problems of employees are anticipated and HR policies designed according to that workers in the service sector are not unionized hence have less bargaining power.
11) Manufacturers rely on physical distribution channels to transport goods from production facilities to end consumers.	11) Service firms do not need physical distribution channels as production and consumption takes place at the same location. The service point itself serves as the retail outlet.
12) Innovation in manufacturing firms is in the form of a new product or process. The process starts from R& D in applied and basic sciences and generally begins in industrial laboratories. Such fundamental research yields a prototype (for innovation in product)or generic technology(for process innovation).This prototype if commercially viable is subjected to mass production.	12) Service sector firms do not focus more on basis research as process/systems patent are difficult to obtain. Most of them rely on imitation . Moreover modifying service components is easier as compared to changes in manufacturing processes. Services hence keep on evolving over a period of time. Services need to be tested with real customers, they cannot be tested with real customers, cannot be tested in standalone labs. This limits the number of tests to be performed as every testing has a very high cost of failure. It is not that innovation does not take place in services, it is only that service innovation is difficult to record.Service innovation focuses on the softer aspects like human skills.
13) Manufacturing sector is characterized by high machine intensity. Most of the products are performed by machines which are operated by humans.	13) Service sector is labour intensive because personal service has an important role in service delivery. The service cannot be delivered by a machine, it has to be delivered by a person. Due to these aforementioned factors, the service industry is often referred to as the "people industry," necessitating

	employees to possess strong interpersonal skills.

Hence it is evident that the manufacturing sector is concerned about machines and technology and takes care of human-machine interaction whereas the service sector is focused on soft skills and takes care of human –human interaction.

Initial research on stress focused on the manufacturing sector. The documented evidence of stressors began with the Industrial revolution. (Canon 1914) through the fight or flight response explained how potentially dangerous situations   evoked physiological responses like elevated heart rate and blood pressure. Similarly, (Hans Selye 1936) through the 'General Adaptation Syndrome" said that stress is a set of bodily response against a noxious stimuli. Canon and Selye who are pioneers in stress research both focused on the physiological dimension of stress and emphasized the presence of external stimuli which cause stress. The manufacturing activities which began with the Industrial Revolution   were the external stimuli which were stressors for the work force. Therefore, first priority of stress researchers was the identification of stressful work conditions and structures in the manufacturing sector.

Stressors in the manufacturing sector

Physical conditions

 The industrial revolution changed the way work was being done. Production which was done in small   cottage industries now shifted to factories. It led to mass production using big machines and human force. People were employed on a large scale to carry on production. Machines used for production were not very sophisticated. They generated a lot of heat and vibration and created a lot of noise. Workers had to move from the comfortable domestic setting to an alien environment of a manufacturing concern. In small scale production they were working from the vicinity   of their homes. But now they had to work in a congested environment in the factory with strangers. They also had to work in a disciplined environment governed by strict rules and regulations.

Now the work of Canon and Selye was taken further by other researchers to study the effects of industrialization on employees.

 Most of the initial studies on stress were conducted in manufacturing organizations. Early investigations on blue collar workers tried to identify links between environmental conditions and workers health. (Hans Selye 1936) also talked about noxious stimuli from the environment like heat, temperature, noise leading to stress in people.

(Kornhauser 1965) observed that factors like unpleasant working conditions, the requirement to exert physical efforts for long periods and requirements to work at a fast pace are responsible for stress in manufacturing organizations. Noise, vibration and temperature were identified as major sources of strain. Vibration from rotary or impacting machines   mostly used in manufacturing were found to be having a negative effect on workers' health. Similarly, workers were also subjected to extremes of temperature, either heat or cold which was also a stressor

for them. (Suedfald 1979) identified density and crowding on the shop floor as a stressor in the manufacturing sector.

Repetitive work performed by the workers on the assembly line was also identified as a stressor (French et al,1973) Machine paced work required constant attention which was intrinsically arousing and lead to stress among factory workers.(Frankenhauser and Gardell, 1976) Workers who had worked in the vicinity of their domestic settings now had to work in a disciplined environment. This adjustment was also a stressor for employees. Industrialization brought widespread use of tools and machines to the workplace the design of these tools and machines was driven by technical requirements and did not take into consideration needs of workers. The workers had to adapt to the machines, which was also a stressor for them. (Margolis, Kroes, & Quinn 1974)

Hence it is evident that early research on stress tended to focus predominately on aspects of physical environment.

Organization structure and processes

The scientific theories proposed by management thinkers like Taylor, Fayol and MaxWeber also had implications on the organization structure and environment which created a new set of stressors for the employees.(Ivancevich M.J., & Donnelly H. J,1975)

Taylor's scientific management (1911) emphasized scientific planning to achieve efficiency, standardization and specialization. Weber's approach emphasized that organizations functioning should be based on formal rules and regulations. Tasks were separated on a functional basis each having a separate chain of command and the organization's functioning was based on formal rules and regulations. Taylor's administrative theory also emphasized on division of labour and scientific management of work.

The drastic change in work structures had its own implications for workers. Worker's autonomy was curtailed because of highly specialised and bureaucratic structures. A worker did not have any control over his work. The role of a worker was reduced to becoming a mere cog in a dehumanizing machine. (Cummings and Molloy,1977).The lack of control over work and the feeling of powerlessness isolated workers from the product of their work. This led to alienation among workers and became a cause of stress for workers. Alienation at work has been positively linked with work stress, alcohol use, burnout and depersonalization. Lack of participation was also positively associated with emotional distress and role stress. Research studies consistently discovered that workers autonomy in performing their duties and alienation from work have an inverse relationship. (Scott 1977) in his study concluded that workers who perceive having more autonomy at work experienced less role stress and show fewer intentions of quitting their job.

Social and emotional stressors

The Hawthorne studies changed the direction of research. Researchers who were till now focusing only on physical conditions and treated the human being as a machine realized that workers also have social and emotional needs. With this realization, the focus of stress research shifted from physical conditions to social and emotional stressors.

Research has now identified relationships at work, lack of social support and lack of adequate communication as stressors at work. Argyris (1957) and Cooper (1978) identified that one of the major sources of stress at work is relationships with one's boss, subordinates, and colleagues. Studies by (French et al 1982) concluded that poor relationships at work lead to psychological strain. Poor relations were defined as   those which include low trust and low

supportiveness (Mc. Lean 1966) suggested that social support, which included factors like interpersonal trust and group cohesion, is associated with decreased levels of job stress and good health. On the other hand, insensitive behavior of supervisors contributes significantly to psychological stress.

Continuous improvement processes: Lean Production, TQM and JIT

The advent of competition in the manufacturing sector made it imperative for organizations to adopt Japanese style of Continuous improvement processes like Lean Production, TQM and JIT to ensure better quality and higher productivity.(Hines and Rich,2004) Emphasis was on shorter cycle times to change production lines, invent a new product. Jobs in lean plants were more stressful because work was organized in shorter cycles, follows a repetitive pattern and a faster pace. (Losonci et al, 2011)

Workers in Japanese and Canadian firms that adopted lean strategies reported elevated levels of perceived stress, tension, and fatigue. Factors such as rapid work pace, extended hours, repetitive tasks, and limited rest breaks were identified as primary contributors to stress levels. A comparative analysis of Canadian auto parts supplier employees in lean and conventional companies revealed a higher incidence of heightened stress levels among those in lean organizations. (Landsbergis et al, 1999)

At General Motors in Canada, where Lean production had been extensively implemented, a greater number of workers reported experiencing job stress compared to less lean companies such as Ford and Chrysler. (Lewchuck and Robertson 1996). Lean production lead to increased work load and less work control. Canadian General Motors employees reported higher levels of work overload, lower control, and reduced autonomy in comparison to their counterparts at Ford and Chrysler. (Parker and Sprigg, 1998)

 Just like the concept of Lean Production, implementation of TQM further imposed strict control on employees and reduced their work autonomy. There was constant pressure on workers and managers to produce goods as per quality specifications. This constant pressure was also a stressor for employees (Landsbergis et al, 1999)

Mergers and Acquisitions, downsizing and outsourcing.

Mergers and Acquisitions, downsizing and outsourcing were the   strategies followed for rapid growth and increased profitability. All these changes introduced in the manufacturing sector introduced a new set of stressors for employees working in the sector.(Biazzo and Panizzolo, 2000)

Work conditions in an organization going for downsizing is characterized by uncertainty and ambiguity which again is a potential stressor for employees. (Zeitlin, 1995) Downsizing leads to reduction in work force and hence job insecurity which is a perceived threat of losing the job. (Parker et al, 1997)

Another major stressor for workers in the manufacturing sector is outsourcing. It affects the workers negatively as it reduces the skill base of the workers and increases the work assignment of the remaining work force. (Baruch, Y., & Hind, P, 1999). Usually work force is reduced in a grethe work proportion as compared to the work out sourced. Moreover, organizations start focusing on core activities and eliminate unskilled jobs. This results in stress in lower level and unskilled workers.

 Hence it is evident that stress is a phenomenon prevalent in the manufacturing sector since the advent of the industrial revolution. But the stressors have been changing according to the

changes in the sector. The new techniques adopted by the firms in the manufacturing sector pose constant challenges for the workforce as each technique brings about changes in the organization of work.

Stressors in the Service sector

Initial studies on stress focused on the manufacturing sector as the service sector was nonexistent. But now services can't be ignored as they are a major contributor in today's economy in terms of employment and foreign exchange.

Service organizations have very peculiar characteristics. They face challenges like difficulty in standardization, taking care of intangible elements, inability to rectify mistakes, customers being involved in the production process. The most important element which the service sector has to take care of is its employees. (Lovelock, 1996) Employees in the service sector are visible to customers, not only visible they are the ones who interact with the customers . Customer satisfaction is dependent on the interaction between employees and customers. Satisfied employees make satisfied customers. Hence it is very important to study the wellbeing of employees in the service sector and find out causes leading to stress.

Emotional labour and stress

Work does not involve emotions and follows a pre decided pattern including more physical work In the manufacturing sector. But service sector is a people intensive industry, employees are involved in direct interaction with clients. Employees in the service sector have to display desired emotions to make the service encounter a pleasant for the customer. This practice of emotion management is termed as emotional labor.

According to (Hochschild 1983) jobs which involving emotional labour have the following features

- Direct interaction with the public
- Employees must convey a particular emotional demeanor to customers.
  Employers exert influence over the emotional expressions of employees.

People working in the service sector are subject to all these three conditions and hence engage in emotional labour. Emotional labour leads to low self-esteem, depression, role alienation and burnout in service sector employees. (Ashforth and Humphery 1993) Hence stress in the service sector has a psychological perspective as compared to manufacturing.

Another consequence of emotional labour is the distancing between self and work. Just as workers on the assembly become alienated from their bodies, workers in the service sector get withdrawn from their true feelings. This leads to emotional dissonance which reflects a difference between expressed emotions and felt emotions. Emotional dissonance further leads to drug or alcohol abuse, low self-efficacy and depression. (Ashforth and Humphery 1993; Hochschild, 1983)

Hence it is clear that the practice of emotional labour by the service sector employees prevents them from displaying their real emotions. The surface acting and faking emotions is significantly correlated with emotional exhaustion and stress. (Dawson et al, 2011)

Weak internal labour market

The internal labour market refers to the set of rules and regulations within the organization regarding promotion criterion, wage differentials and evaluation of jobs. (Tom Baum 2008) argues that labour markets can be strong or weak. He differentiates the labour markets as strong and weak internal labour markets. Mentioned in table 2.

Table 2. Internal labour market

Systematic attributes of robust internal labor markets	Organized characteristics of feeble internal labor markets
1) Specific Recruiting Standards	1) Not very specific recruiting standards
2) Single port of entry	2) Multiple port of entry
3) Highly skilled workforce	3) Low skilled workforce
4) Fixed criterion for promotion and transfer	4)No fixed criterion for promotion and transfer
5) Organizational culture is strong	5) Weak Organizational culture
6) Pay differentials are fixed over time	6) Pay differentials vary over time

The service sector has a weak internal labour market because of which the bargaining power of employees is low whereas the manufacturing sector has a strong labour market. The inability of employees to express their opinion and fight for their rights is one of the important causes for stress.

Low status of employment

The job characteristics of service-related positions typically fall within the categories of semi-skilled or unskilled. According to (Hjalager and Anderson 2001) most of the employees do not have professional training. This lack of professional skills creates a stereotype that service sector employees are of a low status. (Ho, Joan 2012)

Furthermore, employment in the service industry, particularly within hospitality, has traditionally been linked with notions of subservience and is often perceived as menial and undervalued, encompassing tasks such as cooking, serving, cleaning, and tidying. (Riley 1999). The lack of respect and dignity leads to lowered self-esteem and hence to reduced job satisfaction and stress. (Zerbe et al, 1998)

Low salary levels and stress

Low wages pose a significant issue regarding work-related stress within the hotel industry because compensation in this sector is typically determined by qualification standards that are set relatively lower compared to other service industries. (Haynes and Fryer,1999, Aydın Civilidag 2014; Nuanghu & Bula ,2015). Workers in the informal hospitality sector receive significantly lower wages in comparison to those in the formal sector.
(Arabi et al. 2013) perspective also aligns with the notion that the hotel industry offers comparatively lower wages compared to other sectors in Malaysia. On average, individuals employed in the food, hospitality, tourism, and catering sector earn less than those working in the telecommunications sector. Primary breadwinners in the hospitality industry are

particularly anxious about job stability and are often willing to prioritize work responsibilities over family obligations, leading to heightened levels of stress. (Dawson et al., 2011; Karatepe and Olugbade, 2009; Kim et al., 2007).

Long working hours and shift work

Employees in the hospitality sector face stress due to longer working hours. Hotel industry does not follow a typical 09.00am-05.00 pm schedule. The hotel is working 24/7 and welcomes guests at all hours. Weekends and holidays are busier for hotel staff because of weddings, parties, meetings etc. (Rajput Kiransinh Natwarsinh, 2014) Work schedules that involve weekend and holidays pose challenges for people trying to maintain work family interface (Zhao et al, 2011). Longer working hours and mismatches with holidays of children and spouse creates problems in work life balance and hence leads to stress. (John O'Neill 2012) conducted focus group study among hospitality professionals and concluded that long unpredictable hours are a major source for the employees in the hospitality sector.

Postmodern consumer's expectations

Postmodern consumer is highly individualistic in his consumption of services. He asks for immediate gratification of needs. He is not in conformance to the traditional values of the society and is not very predictable in behavioral patterns. (Berner &Tonder, 2003)

Service organizations have to carefully measure client profiles and have to develop internal capability to respond to the needs of the postmodern consumer. As the consumer is highly individualistic in his needs service organizations have to provide customized products and that too at a very quick speed. (Power, M. 1990)

Managers in the service firm cannot adopt uniform ways in dealing with customers. He cannot act according to rules and regulations. He has to deal with managerial situations which do not have precedents. Each situation is multifaceted and unique. This very factor leads to stress among managers. (Arias and Aceborn, 2001)

Employees have not only to respond to customer needs but respond quickly. This taxes the adaptive capacities of the individual leading to stress.

Conclusion

The nature of work has changed drastically in the last four decades of the 20th century. The 1960's and 1970's saw a lot of innovation in the technological paradigm. 1980's was characterized by a shift towards globalization with organizations undertaking mergers, acquisitions and strategic alliances. 1990's was an era of major restructuring of work and organizations were downsizing in an effort to survive. The 21st century gave way to organizations having organic structures and flexible manufacturing processes. Conditions of work and employment have changed significantly over a period of time. These changing conditions of work have been identified as stressors for individuals working in these organizations. Stressors at the workplace have existed since work was done in organizations. But the type of stressors have changed with changes in the nature of work. Initial studies on stress were focused on physical conditions of work, then shifted to other factors like organization restructuring and changing patterns which effected individuals psychologically than physically. The stressors like automation, lean production, downsizing, and outsourcing were responsible for higher mental load, Isolation from work, job insecurity, monotony and boredom. Stressors in postmodern organizations were linked to organizational complexity and environment uncertainty. Most of the initial studies on stress were limited to the manufacturing sector. But the emergence and dominance of the service sector motivated researchers to study

stress in the service sector also. The mental health and wellbeing of employees in the service sector assumes importance as it is a people intensive industry. The employees are a part of service delivery process. Stressors in the service sector are related mainly to management of emotions which, leads to emotional dissonance. Moreover factors like long and unsocial work hours working on holidays disturbs the work life balance of employees. The weak bargaining power of employees and the poor image of the industry lead to low wages in the service sector which again is a stressor for the employee.

References

1. Aarabi, M. S., Subramaniam, I. D., & Abu, Baker, Akeel, A. B. A. (2013). Relationship between Motivational Factors and Job Performance of Employees in Malaysian Service Industry. Asian Social Science. 9(9), 301-310.
2. Argyris ,C.(1957).Personality and organizations .New York.Harper and Row
3. Arias, J.T.G., & Acebrón, L.B. (2001). Postmodern approaches in business-to-business marketing research. Journal of Business and Industrial Marketing, 16(1), 7-20.
4. Ashforth ,B.E .,& Humphrey .H (1993) "Emotional labour in service roles :The influence of identity".Academy of Management review,18(1)88-115
5. Aydın, Civilidag. (2014).Hotel Employees' Mobbing, Burnout, Job Satisfaction And Perceived Organizational Support: A Research On Hospitality In Turkey. European Scientific Journal Vol.10, No.35,1-22
6. Baruch, Y., & Hind, P. (1999). Perpetual motion in organizations: Effective management Vol. 20, No. 2 , pp. 272-280. and health. Social Science & Medicine, 38, 1431-37.
7. Baum, T. (2006b), "Reflections on the nature of skills in the experience economy: challenging traditional skills models in hospitality", Journal of Hospitality and Tourism Management, Vol. 13 No. 2, pp. 12
8. Berner A & Tonder CL Van (2003). The postmodern consumer: implications of changing customer expectations for organisation development in service organisations. SA Journal of Industrial Psychology, 2003, 29 (3), 1-10
9. Biazzo, S. and Panizzolo, R. (2000), "The assessment of work organization in lean production: the relevance of the worker's perspective", Integrated Manufacturing Systems, Vol. 11 No. 1, pp. 6-15.
10. Cooper ,C.L .,and Marshall , J (1978) "Sources of managerial and white collar stress".In C.L Cooper and R.Payne (eds) Stress at work,pp.81-105,John Wiley and sons .New York
11. Cummings, T.G. E.S. Molloy, and R. Glen, 1977. "A methodological critique of Fifty-Eight selected work experiments." Human relations 8:675-708.
12. Dawson, M., Abbott, J. and Shoemaker, S. (2011), "The hospitality culture scale: a measure organizational culture and personal attributes", International Journal of Hospitality Management, Vol. 30 No. 2, pp. 290-300.
13. Frankenhaeuser, M and B Gardell. 1976. Underload and overload in working life: Outline of a multidisciplinary approach. Journal of Human Stress 2:35-46.
14. French, J R P; Caplan,RD and van Harrison, R (1982)The mechanisms of Job Stress And StrainChichester, John Wiley
15. Gouldner, A.W. 1954. Patterns of industrial bureaucracy. New York Free Press.
16. Haynes, P., & Fryer, G. (1999). Changing patterns of HRM and employment relations in New Zealand: the large hotel industry. Asia Pacific Journal of Human Resources, 37(2), 33-43.
17. Heaney, C. A., Israel, B. A., & House, J. S. (1994). Chronic job insecurity among auto-mobile workers: Effects on job satisfaction
18. Hines P., Holweg M. and Rich N. (2004) Learning to evolve: A review of contemporary lean thinking. International Journal of Operations & Production Management, 24 (10), 994-1011
19. Hjalager, A., & Andersen, S. (2001). Tourism employment: Contingent work or professional career? Employee Relations,23(2),115-129
20. Ho, Joan,"Creating A Hospitality Leadership Development Training Program For a Country Club" (2012).UNLV Theses, Dissertations, Professional Papers, and Capstones. 1343

21. Hochschild,A.R(1983). "The Managed Heart" University of California press,Berkley ,California.
22. Ivancevich M.J., & Donnelly H. J. (1975). Relation of Organizational Structure to Job and the impact of the new psychological contracts on "Survivor Syndrome."European Journal of Work and Organizational Psychology, 8(2), 295-306.
23. John W.O'Neill (2012) Using focus groups as a tool to develop a hospitality work life research study, International Journal of Contemporary Hospitality Management, Vol. 24 Issue: 6, 2012 pp.873-885)
24. Karatepe, O.M. and Olugbade, O.A. (2009), "The effects of job and personal resources on hotel employees' work engagement", International Journal of Hospitality Management, Vol. 28 No. 4, pp. 504-512.
25. Kim, H.J., Shin, K.H. and Umbreit, W.T. (2007), "Hotel job burnout: the role of personality characteristics", International Journal of Hospitality Management, Vol. 26 No. 2, pp. 421-434.
26. Kornhauser,A.(1965).The mental health of the industrial worker.New york John Wiley
27. Landsbergis,P.A.,Cahill,J.,and Schnall.,P, "The impact of lean production and related new systems of work organization on workers health ."Journal of Occupational Health and Psychology 4(2);108-130,1999
28. Lewchuck,W.,&Robertson ,D(1996)"Working conditions under Lean production :A worker based benchmarking study" Asia Pacific Business Review,2,60-81
29. Losonci, D. , Demeter, K. and Jenei, I. (2011), "Factors influencing employee perceptions in lean transformations", International Journal of Production Economics, Vol. 131 No. 1, pp. 30-43.
30. Lovelock .H.Christopher "Services Marketing 'Prentice hall Publication .1996
31. Margolis B.l ,Kroes W H ,Quinn R.P "Job Stress :An unlisted occupational hazard Journal of Occupational Medicine 1974,16:659-61
32. Marshall ,J(1977).Job Pressure and Satisfaction at Managerial levels .Phd Thesis, Manchester ,UMIST.
33. Mc.Lean A (1966).Occupational Mental Health :Review of an emerging art. The American Journal of psychiatry ,61.961-76
34. Nuanghu, K.P & Bula, H,O(2015) Relationship between work stress and performance of employees: A case study of Transit Hotel in Nairobi City County, Archives' of Business Research Vol.3, No.6
35. Parker, S. K., Chmiel, N., & Wall, T. D. (1997). Work characteristics and employee well-being within a context of strategic downsizing. Journal of Occupational Health Psychology, 4, 289-303.
36. Parker,S.K.,& Sprigg ,C.A(1998)A move backwards?The introduction of a moving assembly line.In the proceedings of British Psychological Society Annual Occupational Psychology Conference,139-143
37. Power, M. (1990). Modernism, postmodernism and organization.In J. Hassard & D. Pym (Eds.), The theory and philosophy oforganizations: Critical issues and new perspectives. London:Routledge.
38. Rajput Kiransinh Natwarsinh Organizational Role Stress and Work Life Balance Among Manufacturing and Service Sector Employees: A Comparative Study Asian Resonance VOL.-III, ISSUE-III, JULY-2014)
39. Riley, M. (1996). Human resource management in the hospitality and tourism industry. Oxford, England: Butterworth Heinemann.
40. Scott.W.Richard (1977), "Some problems in the organization structure" Mid American Review of Sociology.Vol 2,No-1,pp1-16
41. Selye. H (1936).The General Adaptation Syndrome and the disease of adaptation. Journal of Clinical Endocrinology (6)
42. Selye.H. (1976).The stress of life (rev edn) New York. Mc Graw Hill.
43. Suedfald,P. (1979).Stressful levels of environmental stimulation .In I.G.Sarason and .D.Spielberger(eds)Stress and Anxiety.Vol 6 The series in clinical and community Psychology,pp.109-127,Hemisphere Washington D.C
44. Taylor, Frederick Winslow. The Principles of Scientific Management. New York: Harper & Brothers, 1911.

45. Tom Baum, (2008) "Implications of hospitality and tourism labour markets for talent management strategies", International Journal of Contemporary Hospitality Management, Vol. 20 Issue: 7, pp.720-729, https://doi.org/10.1108/09596110810897574

46. W.B. Cannon (1914) "The emergency function of the adrenal medulla in pain and in major emotions" American Journal of Physiology .33 .356-372

47. Zeitlen R. Lawrence (1995) "Organisational downsizing and stress related illness".International Journal of Stress Management. Volume 2,issue 4 207-219

48. Zerbe, W. J., Dobni, D., & Harel, G.H. (1998). Promoting employee service behavior: The role of perceptions of human resource management practices and service culture. Canadian Journal of Administrative Sciences, 15(2), 165-179

49. Zhao, X., Qu, H. and Ghiselli, R. (2011), "Examining the relationship of work–family conflict to job and life satisfaction: a case of hotel sales managers", International Journal of Hospitality Management, Vol. 30 No. 1, pp. 46-54.