

# Employee Engagement and Productivity – Linking connectivity from manufacturing industry perspective

<sup>1</sup>Dr. Sasmita Choudhury & <sup>2</sup>Dr. Manoj Kumar Mohanty

<sup>1</sup>Manager – RBSK, Rourkela Government Hospital (RGH), Rourkela, Odisha (India)

<sup>2</sup>Senior Manager- Procurement, Larsen & Toubro Limited, Kansbahal, Sundargarh, Odisha (India)

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### Corresponding Author

Email: manojacademics[at]gmail.com

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## ABSTRACT

Focus on core sectors and constant economic reforms creating Indian as a hub of global business center and one of the key country for global development. Through “Make in India” initiative by the government of India, manufacturing industry targeting to contribute 25% of the GDP and to create 100 million new jobs by 2022. This calls for special focus on Indian manufacturing sector and to identify the key dimensions, which are having impact to such ambitious target. Employee engagement and productivity are the two variables which can influence organizational, personal, economic and social growth of the country and needs to be understood closely. This study endeavors to understand the inter relationship between employee engagement and the productivity of the manufacturing sector. At the same time the study investigates into the interplay between the drivers of employee engagement with the drivers of productivity in the manufacturing segment.

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## 1. Introduction

Currently Indian economy is the fastest growing economy in the world as per International Monetary Fund (IMF) and Central Statistics Organization (CSO). India is poised to be within best three economy counties in the world within 10-15 years. Focus on core sectors and constant economic reforms creating Indian as a hub of global business center and key country for global development. About 15% of India's GDP and 50% of the total exports comes from the manufacturing sector of India. The employment contribution to the nation by this sector is more than 12% of the total work force. Through “Make in India” initiative by the government of India, manufacturing industry targeting to contribute 25% of the GDP and to create 100 million new jobs by 2022 ([www.ibef.org](http://www.ibef.org)). This calls for special focus on Indian manufacturing sector and to identify the key dimensions, which are having impact to such ambitious target.

Employee engagement is associated with many desirable outcomes such as job satisfaction, intention to stay, high productivity, job performance and customer satisfaction. ‘Engaged workers provide the company increased productivity, higher financial returns, lower attrition, greater talent pool, higher morale and create emotional engagement and loyal customers’ ([www.Haygroup.com](http://www.Haygroup.com)). The capacity of an organization to manage its ‘employee engagement’ is closely linked to its ability to achieve high performance levels and superior business results through increased productivity. Productivity is the ability of an organization to produce goods or services with the minimum input and it decides the growth story and financial stability of the organization. Therefore organizations must design a control system to keep a watch on the actual output against resources consumed. The measuring method, identification of actual resources and time scale must be established to know the productivity levels of the organization. Alan Lower (1985) advocated the importance of productivity and identified five key reasons why productivity is

highly desired. In today's competitive world organizations only can be survived with an optimum balance between cost, quality and delivery. Productivity can influence all these three areas. In global and boundary less economy manufacturing industries in developed countries have to compete with low cost producing developing countries for their existing products or have to change the product portfolio. The economic growth of an organization or country only can happen when more resources are employed to create additional product or services, or by increasing the productivity levels. As resources is becoming limited, increased productivity becoming the only answer to the problem. Industry and our community must be supported by social infrastructure like public transport, education and health care facility. Provision for such facilities kept from the national income of the country. So it becomes an obligation for the public organizations to increase their productivity and contribute more financially to the government. Effective use of resources and efficient production system by both private and public sector manufacturing industry can reduce the inflation. One of the secured methods of improving a nation's balance of payment and controlling inflation is productivity. High standard of living and improved quality of life is a common objective of individual and nation, which can be achieved by improved productivity (John Heap, 1992).

As we understand employee engagement and productivity are the two variables which can influence organizational, personal, economic and social growth of the country, it is more important to understand the drivers of these two variables. This study endeavors to understand the inter relationship between employee engagement and the productivity of the manufacturing sector. At the same time the study investigates into the interplay between the drivers of employee engagement with the drivers of productivity in the manufacturing segment.

## 2. Attributes of Employee Engagement

As the objective of the study is to link employee engagement and productivity, we have tried to find out the maximum number of engagement attributes traced so far by the previous researchers. Apart from that the gaps also considered to get the consolidated attributes of engagement.

Previous studies from 1990 to 2018 considered for getting the attributes selecting prominent 68 studies across the globe. During linking the engagement attributes with productivity principal attributes considered.

**Table 1: List of engagement attributes**

Sl.	Researcher	Year	Drivers
1	Kahn	1990	Meaningfulness, Safety at work, Psychological availability at work
2	Harter et al.	2002	Employee well-being, Positive work place
3	Harter et al.	2003	Clarity in expectations, Resources, Opportunity at work, Recognition, Caring, Encouragement, Opinion honoring, Mission clarity, Quality commitment, Congenial environment, Feedback
4	Loehr	2005	Enthusiasm, Greater value to the employer, Improved physical health, Happiness
5	Cawe	2006	Leadership and management, Talent Management, Communication and knowledge sharing, Organizations reputation and branding
6	Greenberg and Arakawa	2006	Optimism in the workplace, Employee well-being, Engaged managers
7	Higgs	2006	Shared ownership, Investment for the development, positive climate and organizational culture, Employee's immediate line manager, Attractive financial rewards, Good benefits compared to that of the competitor organizations
8	Saks	2006	Job satisfaction, Organizational commitment, Job characteristics, Organizational citizenship
9	Seijts and Crim	2006	Connection,, Career development, Vision Clarity, Conveying feedback, Congratulating performance, Recognition of contribution, Control over jobs, Collaboration, Credibility, Confidence
10	Stairs, et al.	2006	Organizational affiliation, Autonomy and influence, Work-work and work-life balance, Opportunities for growth, Role factors, Reward culture, Quality of relationships, Quality of supervision and Work culture, Loyalty, Performance- motivation
11	Bhatnagar	2007	Organizational culture, Career planning, Incentives, Organizational support
12	Chen	2007	Financial rewards, Participation in decision making process, Job autonomy, Performance feedback in task level resources
13	Ryan	2007	Trust and integrity, Nature of the, Line of sight between employee performance and company, Career Growth, Pride about the company, Co-workers/team, Employee development, Relationship with one's manager
14	Scottish Executive Social Research	2007	Leadership, Effective management, Open and two-way communication, Pay and benefits, Fair and equal treatment, Employing the 'right' workforce, Career development and training, Working hours
15	Soldati	2007	Trust and integrity, Nature of the job, Line of sight, Career Growth opportunities, Company Pride, Co-workers, Employee's skills, Relationship
16	Bakker and Schaufeli	2008	Commitment fulfilment, Affective motivational state, Work-related well-being
17	Cristina and Patrick	2008	Organizational leadership, Job, and individual characteristic resilience, Locus of control, Active coping style, Self-esteem, Neuroticism, and extraversion, Ethical and trustworthy organization
18	Macey and Schneider	2008	Job satisfaction, Organizational commitment, Psychological empowerment, Job involvement, Sense of self-presence in the work
19	Miller	2008	Recognition, Workplace culture, Communication, Managerial styles, Trust and respect
20	Park & Rainey	2008	Quality of political leadership, Administrative leadership
21	Srivastava and Bhatnagar	2008	Motivation in the work, Positive interpersonal support, Efficient work environment, flexible work hours, Work-life balance, Paid holidays, Buying lunches from restaurants, Birthday celebrations

22	Townsend and Gebhardt	2008	Commitment of top management, Leadership style, Employee involvement with a structure, Communications, Training, Measurement and Recognition, Gratitude and celebration
23	Ramadevi	2009	Teamwork, Pleasant working conditions, Treatment of employees, Growth opportunities, Skill enhancement, Abundant training opportunities
24	Simpson	2009	Organizational factors, Individual contributors
25	Xanthopoulou, et al.	2009	Job resources, Personal resources
26	Southard	2010	Environmental influence, Work-unit engagement
27	Swarnalatha and Prasanna	2010	Proactive workplace, Policies and practices of HR, Workplace culture, Organizational communication, Managerial styles to trust and respect, Leadership and company reputation, Access to training and career opportunities, Work/life balance, Empowerment
28	Walter, et al.	2010	Personal interest, Holding career discussions, Acknowledging employee contributions, System of empowerment, Celebrating milestones and successes
29	Xu and Thomas	2010	Supports team, Effective performance, Integrity
30	Chalofsky and Krishna	2011	Motivation and satisfaction, Opportunities to use skills and abilities, Relationship with immediate supervisor, The work itself, Meaningfulness of job, Flexibility to balance life and work issues
31	Choudhary et al.	2011	General climate, OCTAPAC culture, Implementation of HRD mechanism
32	Gruman and Saks	2011	Work conditions, Integrated Systems, Accountability
33	Krishnana	2011	Psychological contract, HR systems
34	Mani	2011	Employee Welfare, Empowerment, Employee Growth, Interpersonal Relationships
35	Shuck, et al.	2011	Relationship development, Attachment to co-workers, Workplace climate, Opportunities for learning
36	Slatten and Mehmetoglu	2011	Perceptions of role benefit, Job autonomy, Strategic attention
37	Abraham	2012	Cooperation between departments, Nature of job, Immediate supervisor, Recognition to work, Equality and working environment, Trust, Individual co-operation, Creativity
38	Men	2012	Products and services quality, Financial performance, Vision and leadership, Work environment, Social responsibility
39	Robertson et al.	2012	Psychological well- being
40	Biswas et al.	2013	Perceived organizational support, Psychological contract
41	Choo et al.	2013	Organizational communication, Reward and recognition, Employee development
42	Gupta & Kumar	2013	Fair performance appraisal system
43	Menguc et al.	2013	Supervisory support, Perceived autonomy
44	Agarwal	2014	Procedural justice, Interactional justice, Psychological contract fulfilment
45	Anitha	2014	Working environment, Team and co-worker relationship
46	Bedarkar&Pandita	2014	Communication, Work life balance, Leadership
47	Bedarkar&Pandita	2014	Communication, Work life balance, Leadership
48	Choudhary et al.	2014	Climate quality
49	Rana et al.	2014	Job design, Job characteristics, Supervisor and co-worker relationships, Workplace environment, HRD practices
50	Kaliannan&Adjovu	2015	Talent management practices
51	Nair &Salleh	2015	Appraisal justice, Trust
52	Popli& Rizvi	2015	Service orientation, Transformational leadership
53	Taneja et al.	2015	Invest in corporate social responsibility, Focus on customer, Supporting workplace for democracy, Work life balance, Rewarding culture
54	Ghosh et al.	2016	Variable rewards, Recognition
55	Hanaysha	2016	Organizational learning, Adopting effective human resource practices
56	Mehrzi& Singh	2016	Leader, Team, Perceived organizational support, Organizational culture
57	Tiwari &Lenka	2016	Psychological safety

58	Whiteoak& Mohamed	2016	Workplace safety
59	Kwon et al.	2016	Empowering leadership, Quality of relationship between employee and supervisor
60	Bandura et al.	2017	Honoring the voices of employees about their want, Understanding what employee want to learn
61	Devendhiran et al.	2017	Spirituality
62	Gawke et al.	2017	Development of intrapreneurship skills
63	Jena et al.	2017	Trust, Transformational leadership, Wellbeing
64	Nazir& Islam	2017	Organizational support
65	Ruck et al.	2017	Organizational communication, Recognition of employee voice
66	Saks	2017	Structural approach to generate engagement, Removal of engagement barriers
67	Sievert &Scholz	2017	Social tools in organization's internal communications
68	Sahu et al.	2018	Transformational leadership, Employer branding

From the literature review and expert opinion this study has identified engagement drivers which to be linked to productivity drivers are Strong leadership, Proper compensation, Role clarity, Quality of job, Technology, Responsibility, Training and development, Health and safety, Retirement benefits, Feedback system, Team work, Working environment, Welfare amenities, Shop floor arrangements and Skilled based job allocation.

**3. Productivity**

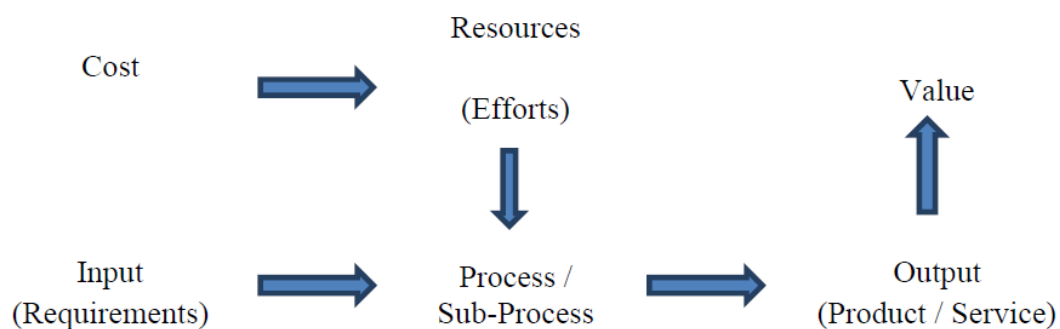
Productivity is defined as the ratio between outputs to input. It means how effectively one organization produces product or service by using man, machine, raw material, labor, technology and knowledge.

Equation of productivity = Output / Input

From the organizational perspective productivity means the ratio between value of product or service created with the cost of resource utilized for the same. As organizations are more concerned about higher productivity the two variables of productivity i.e. output and input needs to be understood correctly. The productivity can be increased in four different ways with respect to the above two variables.

- Increased production (output) with same input
- Increased production (output) with lesser input
- Same production (output) with reduced input
- Increased production (output) with same input

A simple model of the productivity may be as given in Fig.4.1



**Fig.1: Simple model of Productivity**

Increased productivity provides competitive advantage to the organization. So organizations are more focused to increase productivity with reduced manpower, material, space, money and time. This is possible with the use of high end technology, choice of right material, utilization of just in time concept, keeping the morale of the workforce high and doing work smartly. The method or process may vary from organizations to organization, but the above mentioned basics remain same for all.

**4. Drivers of productivity**

Efficiency of a system, organization, machine or a person is called as measure of productivity. Productivity is calculated with reference to the total output produced within a specific timeframe by utilizing the amount of resources like material,

machine, manpower and capital. Productivity is depends on various factors like skill of the manpower, type of raw material, available infrastructure, amount of capital employed, environment, organizational culture, nature of business and geographical position of the organization. This study referred the productivity drivers of manufacturing industries from the countries like New Zealand and UK to get a fair direction. Apart from this expert opinions also counted to summarize the productivity attributes.

UK government has identified five key drivers i.e. investment, innovation, skill, enterprise and competition to enhance productivity. Investment in the form of machinery, manpower, building and equipment helps in producing more with lesser time and better quality. Innovative ideas, new technologies, new product and improved process boost

productivity. It can enhance make the production system more rigid, efficient, effective and also can motivate the workforce. Skill has a direct impact on productivity and the quality of product. So organizations must enhance the skill levels of their workforce by providing training with the pace of changing technology. Enterprise defined here as grabbing new business opportunities. This is applicable for existing as well as new firms. New enterprise competes with existing firms by employing innovative ideas and technologies. This forces existing firms to produce more, change of product portfolio or exit from the market. Competition improves productivity. This calls for adaptation of new technology, process improvisation, designing incentive systems for effective utilization of resources, making efficient organization structure and working in organized way.

The government of New Zealand, Ministry of business, innovation and employment has derived eight driving factors of productivity i.e. building leadership and management capability, creating productive workplace, encouraging innovation, adaptation of technology, skill enhancement, organizing work, networking and collaboration and developing measuring system what matters. Leadership is all about having a clear vision for current and future business. Leader must identify the business opportunities and motivate the workforce to achieve that. Leadership is expected from an individual as well as from teams. A productive workplace demands healthy and caring relationship among the employees and their superiors. Such an environment motivates employees and creates a positive feeling towards organization which ultimately helps in achieving

higher productivity. Organization should honor the feelings, innovative ideas and experience of the employees at work, which will create a better and attracting place to work. Organizations encourage employees to create innovative ideas and use of latest technologies for higher productivity. Generally organizations employ high skill workforce and highly paid employees to extract the benefits of latest innovation and technology. This helps them in increasing the market share in comparison to their competitors. Skilled workforce are innovative and capable of using new technologies. They can produce high quality product or services with lesser time and lesser mistakes. Usually they are more responsible, required less supervision and better communicators. Productive & vibrant workplace have standard processes and operating structures in place, so that they can maintain higher production, adopt new technology and sustain market changes. An organized workplace can extract the best from their employees. Sharing ideas and good manufacturing practices among peer organizations can improve the productivity of the workplace. Collaboration with technology leaders, new geographic partners and honest suppliers can increase the business map and market share. One must measure the value of the investment made to achieve productivity against what actually achieved. For example comparison can be made with the investment in technology acquisition and skill enhancement with quality of product and market share.

Literature review conducted from 1996 to 2013 to get the drivers of productivity. The identified attributes are summarized in table 2.

**Table 2: Drivers of productivity from Literature review**

Sl. No.	Researcher	Theme	Driver / factors of productivity
1	Kinni (1996)	To explore the factors of world class manufacturing (WCM) in Egypt	<ol style="list-style-type: none"> <li>1. Customer focus</li> <li>2. Quality</li> <li>3. Agility</li> <li>4. Employee involvement (EI)</li> <li>5. Supply management</li> <li>6. Technology</li> <li>7. Product development</li> <li>8. Environmental responsibility</li> <li>9. Employee safety</li> <li>10. Corporate citizenship</li> </ol>
2	Pradhan and Barik (2004)	To explore the productivity drivers in Indian Manufacturing Industry	<ol style="list-style-type: none"> <li>1. Capital</li> <li>2. Raw material</li> <li>3. Infrastructure</li> </ol>
3	Regan et al. (2005)	To explore the drivers of high growth in manufacturing SMEs	<ol style="list-style-type: none"> <li>1. Innovation</li> <li>2. Ownership</li> <li>3. Organizational capacity and capabilities</li> <li>4. Strategic orientation</li> <li>5. Operating environment</li> <li>6. E-Commerce</li> </ol>
4	DTI-UK, Department of trade and industry (2006)	Study of productivity drivers of UK manufacturing sector	<ol style="list-style-type: none"> <li>1. Investment</li> <li>2. Innovation</li> <li>3. Skills</li> <li>4. Enterprise</li> <li>5. Competition</li> </ol>

5	Nesta (2007)	Study of linkage of knowledge and productivity	<ol style="list-style-type: none"> <li>1. Knowledge diversity</li> <li>2. Knowledge capital</li> <li>3. Knowledge relatedness</li> </ol>
6	Coccia (2008)	To find out the optimal rate of research and development investment to maximize productivity growth	<ol style="list-style-type: none"> <li>1. Investment in Research and Development</li> <li>2. Innovation</li> <li>3. Technology</li> </ol>
7	Roper et al. (2008)	Study of value Chain innovation and its impact on firm productivity	<ol style="list-style-type: none"> <li>1. Skill building</li> <li>2. Capital investment</li> <li>3. Utilization of other resources</li> </ol>
8	Boothby et al. (2010)	Linkage of technology adoption and training on productivity (Area of research - Canada)	<ol style="list-style-type: none"> <li>1. Invest in skill building</li> <li>2. Adoption of new technology</li> <li>3. Intensive training</li> </ol>
9	Cardona et al. (2013)	Study of Impact of information communication and technology on productivity	<ol style="list-style-type: none"> <li>1. Communication technologies</li> </ol>
10	Ministry of business, New Zealand (2013)	To find out factors driver productivity in New Zealand	<ol style="list-style-type: none"> <li>1. Building leadership and management capability</li> <li>2. Creating productive workplace cultures</li> <li>3. Encouraging Innovation and the use of technology</li> <li>4. Investing in people and skills</li> <li>5. Organizing work</li> <li>6. Networking and collaboration</li> <li>7. Measuring what matters</li> </ol>

Previous studies carried out in manufacturing sectors to derive factors of productivity were found to be inadequate. After referring the previous researches and productivity drivers of two developing countries this study is undertaken with the help of experts in this field to derive the productivity drivers especially with reference to Indian manufacturing Industry. The attributes identified as productivity drivers for Indian manufacturing industry are Infrastructure, Raw material, Skill and competency, Process, Attitude of employee, Communication, Safety and health, Working environment, Shop floor arrangement, Welfare amenities, Technology, Compensation, Organizational climate, Control and review mechanism.

## 5. Research methodology

This study largely divided in to three segments. In segment one employee engagement attributes from both primary and secondary data are identified. In the second phase drivers of productivity are identified through secondary data as well as from expert opinions. In third phase Summarized form of both

attributes were linked. During expert opinion employees from manufacturing industry are considered those who are having at least 10 years of working experience. For employee engagement segment views of 29 senior executives and for productivity drivers twenty three senior executives are selected. The manufacturing industry are from core sectors and 7 manufacturing units selected across India which are having at least 500 manpower and 4000 million revenue.

## 6. Linkage between productivity and employee engagement

The above studies clearly indicate that productivity and employee engagement are closely related in manufacturing sector. Many factors of employee engagement are directly linked to productivity and many factors are indirectly linked. Some factors of employee engagement are also linked to multiple attributes of productivity. Graphical representation of the same is shown in fig.2. Employee engagement and productivity drivers are summarized and explained briefly in table 2.

Fig.2: Drivers of employee engagement and its linkage with productivity drivers

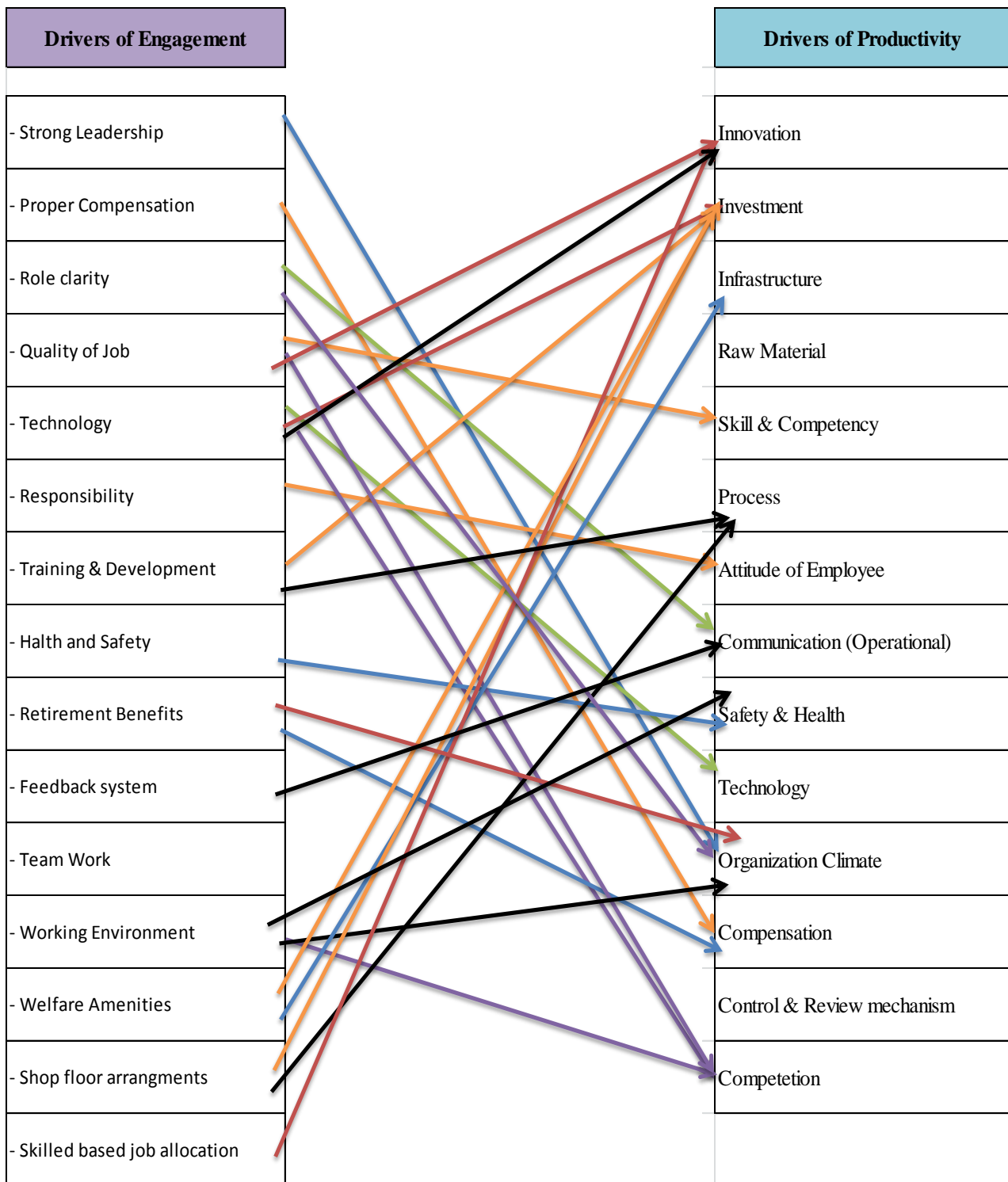


Table 2: Linkage of drivers of employee engagement with productivity drivers

Drivers of Employee Engagement	Driver of productivity	Explanation
Strong leadership	Organization climate	Leadership is considered as an attribute of organizational climate. Strong leadership motivates employees to think positive about the organization. They also think internally to contribute to the organizational goals and align themselves with the objective of the leaders. Employees also get highly motivated with strong leadership.
Proper compensation	Compensation	Directly linked
Role clarity	Organization climate	Role clarity indicates positive organizational climate and clear communication between employee and top management.
	Communication	
Quality of job	Infrastructure	Quality of job largely depends on availability of infrastructure, raw

	Raw material	material, skill and attitude of the employee.
	Skill and competency	
Technology	Technology	Directly linked
Responsibility	Attitude of Employee	Responsibility can be given based on the skill and attitude of an employee. This depends on the nature of the work.
	Skill and Competency	
Training and development	Skill and competency	Training in the form of skill and competency development enhances the performance of an employee. Training and development also helps in establishing and improving manufacturing processes.
	Process	
Health and safety	Safety and Health	Health care facility is considered as one type of compensation. Safe working environment motivates employees to perform better.
	Compensation	
Retirement benefits	Compensation	Retirement benefits are a part of compensation package. But it has very deeper meaning in the sense that organization takes care of the employees after retirement also. This acts as a motivator to join and continue with such type of facility providing industry.
	Organizational Climate	
Feedback system	Control and Review mechanism	Feedback acts as a review and control mechanism of any system. It helps manufacturing system to reduce cycle time, idle time and increasing product quality. Feedback system also acts as a communication tool across the organization.
	Communication	
Team work	Organizational Climate	Building teams and nurturing the teams depend upon organizational climate. Team work enhances productivity as well as personal relationship among employees.
Working environment	Organizational Climate	Productivity of work place and motivation of employees largely depend on working environment. The working climate includes proper temperature in the work zone, noise level and vibration effects. This can be linked to organizational climate and health and safety aspect of employee.
	Health and Safety	
Welfare amenities	Infrastructure	Welfare amenities such as housing facility near work i.e. Colony, Schooling and Medical Centre help in attracting employees. If these needs are solved, they concentrate more in work than other factors. These facilities are also considered as indirect compensation.
	Compensation	
Shop floor arrangements	Process	Proper arrangement of machines, material and related resources improve productivity and reduces set-up and idle times. Due to this employee takes the pride of being more productive.
Skilled based job allocation	Skill and competency	Effective productivity depends on suitable allocation of job, based on skill. The employees those who are having high process knowledge or efficiency are preferred in critical jobs or specific tasks during production.
	Process	

## 7. Conclusion

In this competitive world survival of business largely depends on the productivity levels of the organization. Improved productivity not only contributes to the competitive advantage but also helps in staying in the business; compete with world leading organizations, time to market, effective utilization of resources and production of quality outputs. This can be achieved by investment in physical assets, skill enhancement, and effective utilization of resources, innovativeness, and adaptation of technology, making creating workplace, safe workplace and high morale of the workforce. The productivity drivers explored by this study from various studies and expert opinion are investment, skill enhancement, innovation, enterprise, competition, building leadership and management capability, creating productive workplace,

innovation, adaptation of technology, organizing work, networking and collaboration, measuring what matters, customer focus, quality, agility, employee involvement, supply chain management, product development, environment responsibility, employee safety and corporate citizenship. These drivers are directly or indirectly linked to employee engagement drivers like Strong leadership, Proper compensation, Role clarity, Quality of job, Technology, Responsibility, Training and development, Health and safety, Retirement benefits, Feedback system, Team work, Working environment, Welfare amenities, Shop floor arrangements and Skilled based job allocation. From this study it is very clear that both productivity and engagement drivers are closely linked and are having impact on each other.

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