

How Human Resource can impact the Supply Chain operations of Companies

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Abstract

There is plenty of research paper available on human resource management and how to effectively handle the Human Resource of an organization. But how human resource effect the supply chain of an organization is covered in this paper. This study shows even if proper and advance machine is installed in a facility but if proper human resource are not hire to operate there will be backlogs. Managing the human resource at ground level is a tough job than managing at higher level. The ground staff is in the responsibility of managing the physical work like loading and unloading, sorting etc. and the middle and top level are responsible for solving the complex problems. According to the skill required the recruitment should be done. In order to effectively manage material, information, and financial flows as well as the reverse flow of goods, information, and financial resources in the event that a product is found to be defective, supply chain management specifically examines the sequence of organizations—along with their facilities, functions, and activities—that are involved in sourcing, producing, and delivering a product or service. All stages involved in directly or indirectly completing a request by customers are included in a supply chain. It exists to meet client demands and make money for itself in the process. It also comprises transporters, warehouses, merchants, and the actual customers in addition to the manufacturer and suppliers. The HR criteria and supply chain expertise will be the paper's main discussion points. The necessity for HR to develop productive and efficient operations follows. In other words, the study places responsibility for a conceptual framework's design and implementation on the design and implementation of a few key HR factors in an Indian manufacturing organisation.

Keywords

Organisational behaviour, organisational commitment, supply chain, performance, feedback

Objective

The prime objective of this paper is to project how human resources can affect the efficiency of the supply chain and at the same time understanding the skill gap.

Research Methodology

1. Secondary Research done to identify the research gap and generate research question
2. Secondary research to show correlation between the effectiveness of Human capital and supply chain management.

Literature Review

In the supply chain context, performance of human refers to employees' performance excellence in meeting expected levels, or performance goals, on various SCM-related tasks and activities. This concept was developed first in a more general context by Swart and Duncan [Swart, W., & Duncan, S, 2005], who specified that the expected performance in the workplace by employees is generally dictated by a set of valid and appropriate expectations and is attained through proper education and training. When actual workplace performance adheres consistently to behavioural expectations, then the actual human performance will meet the expected performance. When the actual human performance deviates from expected human performance, then the performance discrepancy must be investigated, causes identified, and appropriate corrective action taken. The definition of human performance distinguishes between situations in which an individual may not be performing adequately due to a lack of skill and when there is a lack of adequate performance due to inadequate compliance with known procedures [Karoly, P, 1993]. The process of supply chain has gained much importance but the people working at the backend to run the supply chain process also holds a significant importance. If the ground staff working in the warehouse stop processing the packages that need to be sent to

customers, then it will create backlogs. The Human Resource chain such as the supplier of raw materials, the workers manufacturing, packaging and processing the goods out of the facility but the delivery person is also a vital resource which enables the final goods to reach the end customers. Which leads to customer satisfaction. According to Arthur (Arthur, J. B, 1994), employees are key to the execution of supply chain initiatives, and managing human assets effectively by emphasizing commitment can be instrumental in improving firm performance. Therefore, human performance has become a critical research topic. Apart from selecting the right supplier and providing customer satisfaction, other areas such as recruitment, succession planning and training in Logistics plays a significant role in the success of the supply chain. Different practices of HRM at the intra-/inter-level of organizations have brought much attention to SCM since the logistics process within a supply chain is human-centric [Hohenstein, N. O., Feisel, E., & Hartmann, E. 2014]. In addition, most SCM relationships occur at the intra- or inter(joint)- organizational level [Koulikoff Souviron, M., & Harrison, A. 2010]. Therefore, at an intra HRMSCM level, each logistics/automotive firm implements HRM practices for sharing different skills and knowledge among its supply chain managers [Giunipero, L., Handfield, R. B., & Eltantawy, R. 2006] whereas, at a joint HRM-SCM level, each logistics/automotive firm shares the HRM and SCM practices among themselves for mitigating the shortfall of professionals [Swart, W., Hall, C., & Chen, H. 2012, January]. As the market is developing more innovation in technology is incorporated in the supply chain network, as a result the people who are responsible for operating these technologies need to be trained. Therefore, the companies need to identify improvement projects and implement improvement initiatives in an inter-organizational context, leading to the concept of collaborative improvement. Collaborative improvement is an inter-company interaction that focuses on continuous innovation aimed to enhance the overall performance of Extended Manufacturing

Enterprise. The key to collaborative improvement is learning and development [Ellinger, A. E, & Ellinger, A. D. 2014]. If any complications occur in the SCM process it also does not signify a technological issue often human resource mismanagement can lead to significant supply chain disruptions. For instance, if backlogs happen in delivering the goods, it is not necessary that due to break down of vehicles the issue is occurring.; there can be labour shortage, who are required to unload the goods from the vehicle, the supervisor who is in charge of the facility is unable to find the root cause of the problem, improper route planning, etc. So, from top to bottom management requires human resources who are efficient in managing the supply chain. Higher levels of organizational investment are associated with social exchange relationships that create feelings of employee obligation which in turn influences employees to benefit the organization through behaviors that exceed minimal requirements of employment (Shore et al.,2006). The centrality of human resources is usually accounted for by the fact that nowadays organizations are facing such challenges as a need to increase productivity, expand into global markets, develop new technologies, respond to changes in the highly volatile marketplace, increase revenue and decrease costs, develop skilled and flexible workforce, and introduce changes (Burke, 2005), which, of course, emphasizes the significance of human resources and capabilities. On the basis of reciprocity norms, employees will be inclined to increase their personal contribution and efforts and ultimately exhibit extra-role behaviors (Tsui, Pearce, Porter, and Tripoli, 1997). The new competition is in terms of improved quality, products with higher performance, reduced cost, a wider range of products and better service; all delivered simultaneously (Dangayach and Deshmukh, 2003). In the Indian context, there have been many attempts to measure the performance at the organizational level, but very few attempts have been made to measure the performance at inter-organizational level (Saad and Patel, 2006).Other approaches focus on ERP-based supply chain performance and proposes an integrated method, total related cost measurement,

to evaluate supply chain performance of a three-echelon, ERP-based supply chain system (Ho, 2007).

Introduction

The organization's strategy is decided upon, and it is subsequently cascaded down to the level of individual business units. To reach a conclusion that will aid in the attainment of the organization's purpose, all functional levels engage with one another. The HR department of any company is in charge of finding the greatest employees at the most affordable rates. This suggests that they are also in charge of managing employee hiring for the supply chain. The HR team must keep track of a skill bank of contract workers and ad hoc labour in order to be able to get in touch with the workers when workloads increase. Every organisation seeks talent that the system can rely on for excellence. To ensure that the employee can produce high-quality work, the HR department must assess their supply chain understanding. The HR team routinely devotes time to researching the company's supply chain practises, as well as its product and service offerings. The absence of experienced individuals who can manage the chain's end-to-end operation is the only thing preventing the supply chain business from expanding further. As a result, the human resources department might be tasked with finding people who can access and use technology in this sector.. Apart from skill, rewards and benefits throughout all the levels in the organisation is important. If professional in the logistics sector are to be effective, they should include -“Integrative vision- the vision to craft integrative, cross-functional, and cross-company programs that enable product to flow rapidly and responsively through the company and the channel. Human resources ability - the ability to harness the power of HR policies to ensure that the programs are implemented effectively throughout the company”.

Skill gap in Indian logistics sector

In comparison to developed nations, India spends a higher percentage of its GDP on logistics—roughly 13%. One of the major causes is the

system's higher level of inefficiency, which includes lower average trucking speeds, longer port turnaround times, and higher costs associated with administrative delays, to name a few.

Country	Logistics Cost/GDP	Share of 3PL in overall logistics
China, India	13-15%	<10%
U.S	9.9%	57%
Europe	10%	30-40%
Japan	11.4%	80%

Source: Logistics in India, SSKI

These inefficiencies have gotten worse over time as a result of a mix of unfavourable governmental environments, significant industrial division, and a lack of sound fundamental infrastructure. At the same time, the lack of a single government ministry or other logistical "supporter" resulted in a fragmented approach to the sector's development. Limited chance to create value resulted from extensive fragmentation, which prevented industrial players from developing the sector as a whole, and insufficient support infrastructure, including roads, ports, and telecommunications.

With the government currently exhibiting a significant commitment towards delivering an enabling infrastructure and establishing favourable legislation, much of this is, however, changing. Significant investment is being made in infrastructure currently and in the future. Regulations regarding the rationalisation of tax structures, for instance, affect how closely most Indian company supply chains are organised nowadays with an eye toward indirect tax costs. Demand, supply, proximity to the consumer, sourcing, transportation expenses, and inventory costs will be the deciding variables in logistics planning following the implementation of GST. As a result, there will be a significant change and/or consolidation in the locations of warehouses, the price of transportation, and the trends of some commercial vehicle classes.

Analysing the skill gap and its connection to behavioural theory

The problem may arise in the supply chain industry due to the skill gap as well as the working conditions in the organisation. Skill gap can occur at any level in the organisation. improper working conditions, low pay scales as compare to the same role in different company, improper and vaguemanpower policies and the presence of unethical behaviour have worsened the situation in the sector, giving the impression that there are few appealing employment possibilities available.. “Herzberg twofactor theory, it states that the intrinsic factors to job satisfaction and associates extrinsic factors with dissatisfaction. Also known as motivation-hygiene factor. Hygiene factors – like the company policy and administration, supervision, and salary- that, when adequate in a job, placate workers, when these factors are adequate, people will not be dissatisfied.” If an organisation wants to motivate people on job, then it should emphasis factors associated with the work such as promotional opportunities, personal growth, recognition, responsibility and achievement.

Although industry players have not been capable of investing in manpower development, the government has also not focused enough on the same. There is a substantial gap in the calibre of the workforce in the logistics sector as a result of the lack of attention given to improving the skill and knowledge of the labour force.

When looking at the talent management challenges from a level-by-level perspective, it is evident that there are widespread skill issues in the road sector, with the operational level experiencing the worst of it.

1. Senior management - with little ability to scale and develop human resource capabilities.
2. Middle Level Management - Lack of specialised understanding of best warehousing practises; gaps in excellent fundamental management practises that are unattractive to professionals; basic internal experience-driven skills without any institutional infrastructure to transmit skills.
3. Operational/front line supervisory - Deficits in basic technical skills, such as safe driving techniques, familiarity with related topics like VAT, loading supervisory abilities, etc. resulting from years of disregard, which in turn resulted from an ill-organized and disjointed framework.

Apart from the managerial level, due to shortage of workers in the warehouse and delivery boys can cause inefficiency in supply chain.

E-commerce companies usually start hiring the blue-collar employees ahead of festival season. They start the manpower planning in order to keep their supply chain run smoothly. Various types of lucrative benefits, and joining and performance linked bonus promises are given. Manpower planning in warehouse and throughout the logistic sector at bottom level can be done through the below mentioned strategies. This will help in managing and controlling the manpower.

1. Flexible Contract: Globalization and the shifting market economy demand the capacity to respond swiftly to rapidly changing situations. Research conducted in the Netherlands on temporary employment (CBS 2012) also supports the existence of this relationship. In fact, it appears that employees today hold temporary contracts more frequently and for longer periods of time than they did in the 1990s (Anon., 2013)

Employers should be able to respond more quickly to shifts in labour demand and availability in the warehouse thanks to flexible contracts. Online sales increase significantly in India during the festival season. Additionally, logistical firms are under pressure to complete the order on schedule. Consequently, these logistics companies can work.

2. Flexible planning: A variety of tactics can be used to implement flexible planning of standard contracts, including deciding on a predetermined annual number of hours that can be distributed flexibly throughout the year or individual schedules, where the team is split up into smaller sub-groups and the length of work shifts is altered. When scheduling holidays and other nonworking days, flexibility can also be acquired by considering demand. Such planning can help to capture shifts in demand, but it may also result in a better balance between worker supply and demand, decreased overtime, greater employee utilisation, and a speedier response time to customers..

3. Job Rotation: is related to the regular switching of employees between jobs. This aids in the development of new attitudes and skills in the workforce. It lessens routine and boredom.

4. Job enlargement: by adding extra tasks, this technique broadens the scope of a work for a certain individual. The additional task does not require new skills, but can be performed with similar skills or efforts as before. For example; if the person is handling the last mile logistics, his job can be enlarged

“Some companies are, however, offering benefits such as joining bonuses, retention bonuses and attendance bonuses to recruit workers. Companies in the e-commerce and logistics industry are reducing their fixed costs by offering bigger performance-linked incentives to attract workers, said Thomas of Team Lease Services.”

The company's supply chain operations can be impacted by how the employees are handled in the organisation. The logistics procedure is a laborious task, and extra labour is needed to carry the goods during festival season. Incentives both physical and intangible, fair and honest performance reviews, inclusion in change implementation, and adoption of change are some elements that will help businesses retain their workforce. This will guarantee a devoted workforce.

Study showing how Productivity is linked to Human Resource

The population of 2815 enterprises registered with the Konya Chambers of Industry was the subject of the investigation (The fifth industrial city of Turkey). 250 samples were chosen at random from each of the following four key industries: machinery, electrical and electronics, automobile, and food. These industries were chosen because they have adopted different

production strategies, like complete quality control, just-in-time, and employee engagement. As part of the study, a sample of 169 people was issued a questionnaire, and 169 of them responded. With a 99% confidence level, a universe size of 2815, an acceptable error of +/- 10%, and the required number of enterprises of 157, this number is statistically significant.

The survey contained 56 questions about the compatibility of production and human resources, behaviour and attitude, teamwork, and interaction. Questions included "manufacturing and human resources fit," "behaviour and attitude," "team activities," "interaction facilitation," "incentives to meet goals," "training on job skills," "training in multiple functions," "communication of strategy," "feedback on performance," and "organisational commitment." The relevant constructs were measured using a set of Likert scales. The following five-point scale was used to rate each construct's item: strongly agree (5), agree (4), neutral (3), disagree (2), severely disagree (1).

Statistical data obtain from the survey is presented below:

Table 1. Statistics of personnel age, personnel number, working time and company age				
Parameters	Min	Max	Mean ± SD	Median
Personnel Age	18	50	31.4 ± 6.2	30
Personnel Number	20	500	128.1 ± 124.7	90
Working Time	1	20	4.9 ± 4.0	4
Company Age	2	60	24.4 ± 14.2	22

There were 91.7% male responders and 8.3% female respondents. The proportion of marital status was 67.5% married and 32.5% unmarried. Regarding their educational backgrounds, the 14.2% of people completed elementary school, 30.2% high school, 35.5% earned an associate's degree, and 17.1% graduated. 3% are

postgraduates. 2.4% of distribution managers were at the higher level, and 25.4% were middle, first level manager (72.2%). Their sectoral distribution was distributed at a rate of 55%. 4.7% electrical and electronic devices, 23.1% food, 17.2% automobiles, and 4.7% machinery.

Table 2. Hypothesis, hypothesis tests and results

No	Hypothesis	Test	p value	Result
1	There is a correlation between manufacturing/human resources fit and organizational commitment.	$\chi^2= 25.484$	0.001	Accepted
2	There is a correlation between behavior/attitude and organizational commitment.	$\chi^2= 18.971$	0.001	Accepted
3	There is a correlation between team activities and organizational commitment.	$\chi^2= 15.780$	0.001	Accepted
4	There is a correlation between interaction facilitation and organizational commitment.	$\chi^2= 9.937$	0.002	Accepted
5	There is a correlation between incentives to meet objectives and organizational commitment.	$\chi^2= 27.588$	0.001	Accepted
6	There is a correlation between training on job skills and organizational commitment.	$\chi^2= 5.182$	0.023	Accepted
7	There is a correlation between training in multiple functions and organizational commitment.	$\chi^2= 12.669$	0.001	Accepted
8	There is a correlation between communication of strategy and organizational commitment.	$\chi^2= 19.053$	0.001	Accepted
9	There is a correlation between feedback on performance and organizational commitment.	$\chi^2= 9.106$	0.003	Accepted

p<0.05 Accepted

We can find 100% of top-tier management and 65.1% of mid-tier management were found to have a high association with organisational commitment after the correlation between the management positions and the data was analysed. In relation to the additional responsibility. It was determined that the statistical difference is significant. ($\chi^2 = 6.693$, $p= 0.035$). Low involvement of first tier management in decision-making, inappropriate rewards, and improper recognitions can all contribute to low commitment on their part. One of the key elements of managing human resources is employee engagement. Only when employees are fully invested in the company can productivity

rise. The organisational strategy should cascade down to the departmental level, and continue to cascade down until the individual level is where the strategy is implemented. An organisation needs employees with a variety of skills, not just those who are physically active; these skills should include being physically active, mentally active, emotionally active, and spiritually active. Employers might solicit employee feedback and inquire about their complaints. Additionally, it was discovered that involvement in "training in numerous functions" was significantly correlated with gender in human resources management practises ($\chi^2 =5.322$, $p=0.021$), but not with other characteristics ($p>0.05$).

Table 3. HRM practices and organizational commitment points

Parameters	Min.	Max.	Mean± SD	Median	Cut off point
1. Manufacturing and human resources fit	6	30	19.2 ± 5.6	18	≥18
2. Behavior and attitude	5	25	16.7 ± 4.6	16	≥16
3. Team activities	6	25	15.2 ± 4.2	14	≥14
4. Interaction facilitation	3	15	8.4 ± 3.1	8	≥ 8
5. Incentives to meet objectives	6	30	18.1 ± 4.4	18	≥18
6. Training on job skills	5	25	14.6 ± 3.6	14	≥14
7. Training in multiple functions	7	30	18.1 ± 4.3	17	≥17
8. Communication of strategy	4	20	11.6 ± 3.3	12	≥12
9. Feedback on performance	11	35	21.3 ± 4.9	21	≥21
10. Organizational commitment	9	45	31.2 ± 7.6	31	≥31

Table 4. Correlations between HRM practices and organizational commitment

Param.	1	2	3	4	5	6	7	8	9
1									
2	.727**								
3	.646**	.700**							
4	.551**	.636**	.766**						
5	.593**	.616**	.705**	.679**					
6	.386**	.225**	.421**	.392**	.472**				
7	.459**	.417**	.574**	.537**	.590**	.472**			
8	.476**	.460**	.647**	.682**	.565**	.547**	.547**		
9	.423**	.330**	.481**	.494**	.534**	.485**	.465**	.525**	
10	.611**	.571**	.511**	.532**	.501**	.266**	.403**	.471**	.416**

Table 5 displays the difference in percentage between adjusted indicative R2 values for dependent variables that can be explained by independent variables. For instance, a 37.3% increase in commitment to organisation, a

dependent variable, is tested to check the appropriateness with manufacturing and human resources management methods, independent factors.

Table 5. Corrected regression analysis between human resources management practices and organizational commitment

Parameters	Adjusted R ²	F' value
1. Manufacturing and human resources fit	0.373	99.341
2. Behavior and attitude	0.326	80.716
3. Team activities	0.264	60.056
4. Interaction facilitation	0.283	66.054
5. Incentives to meet objectives	0.251	55.881
6. Training on job skills	0.071	12.747
7. Training in multiple functions	0.163	32.409
8. Communication of strategy	0.222	47.625
9. Feedback on performance	0.173	34.855

Conclusion

The main goal of the current study was to assess the impact of HR practises in Konya's four key industries: machinery, electrical and electronics, automotive, and food. It is observed there exist a Positive correlation between several HRM techniques demonstrate that when a business or plant intensifies one of the techniques, it is also more likely to intensify efforts in the rest of the techniques. After examining the relationship

between management positions and organisational commitment, it was shown that there was a strong association between organisational commitment and 100% of top tier management and 65.1% of mid-tier management. On the other hand, it was discovered that there was little association between organisational commitment and 79.5% of first tier management. It was determined that the difference was statistically significant. ($F = 6.693, p = 0.035$).

When analysing the relationship between human resources management practises and organisational commitment, other parameter factors—outside of “training on work skills”—have been a strong and positive link that is statistically significant. The difference between the two was found to be statistically significant ($2 = 19.314$, $p = 0.001$), and organisational commitment was shown to be significantly connected in 73.3% of organisations with 90 or more employees but only in 39.8% of businesses with fewer than 90 employees. Therefore, it is plausible to infer from this situation that as a corporation institutionalises and its staff expands, so does its correlation with organisational commitment.

Recommendation

1. Aligning the Corporate strategy with human resources strategy- that is there should be a vertical fit between the two.
2. Performance feedback and weekly or daily review will help in improving and maintaining the high performance of employees
3. Compensation should be formed so that it promotes performance-based pay. Compensation can be used as a regulator to regulate the behaviour and attitude of employees.
4. Training on the skills act as a motivator to retain employees in the organisation because as the environment changes the needs of the employees' changes.
5. Variable pay and incentives should be given more preference to increase the performance and productivity.
6. Team activity should be given preference and reward should be based on team performance

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