The Influence of HR Department's Strategic Role on Organizational Effectiveness through Education and Training Satisfaction: Focusing on the Manufacturing Industry

Jae Won Choi¹, Seok Kee Lee²*, Sung-Dong Kim²
¹Doctoral Student, Dept. of Smart Convergence Consulting, Hansung University
²Professor, Dept. of Computer Engineering, Hansung University

HR부서의 전략적 역할이 교육훈련만족도를 매개로 조직유 효성에 미치는 영향: 제조업을 중심으로

Abstract The purpose of this study is to investigate the effect of the strategic role of the human resources department in the manufacturing industry on organizational effectiveness through education and training satisfaction. Among the data from the 7th human capital company panel survey, data from the manufacturing industry were used and analyzed through a structural equation model. The results of this study are as follows: First, the strategic role of the HR department has a positive effect on satisfaction with education and training. Second, satisfaction with education and training and the strategic role of HR departments have a positive effect on job satisfaction among organizational effectiveness. Third, it was confirmed that education and training satisfaction has a mediating effect on the relationship between the HR department’s strategic role and job satisfaction. The results of this study are expected to become the basis for expanding the authority and responsibilities of the HR department, which is an important factor in overcoming the crisis faced by SMEs as well as innovation, and redefining their role.

Key Words : Manufacturing, HR Department, Education and Training Satisfaction, Organizational Effectiveness, Job Satisfaction, Organizational Commitment

요 약 본 연구의 목적은 우리나라 제조업이 당면한 위기를 극복하기 위한 혁신의 주체인 인적자원 관련 업무를 담당하는 인사 부서의 전략적 역할이 교육훈련만족을 통해 조직유 효성에 미치는 영향을 알아보는 것이다. 제 7 차 인적자본 헤사패널 설문조사 데이터 중 제조업 데이터 활용하였으며, 구조 방정식 모델을 통해 분석되었다. 본 연구의 결과는 첫째, HR 부서의 전략적 역할이 교육훈련 만족도에 긍정적인 영향을 미치는 것으로 나타났다. 둘째, 교육훈련 만족도 및 HR부서의 전략적 역할은 조직유 효성 중 직무만족에 긍정적인 영향을 미친다. 셋째, 교육훈련 만족도는 HR 부서의 전략적 역할과 직무만족의 관계에 매개효과가 있음을 확인하였다. 본 연구의 결과는 혁신뿐만 아니라 중소기업이 직면한 위기를 극복하는데 중요한 요소인 인사 전담부서의 권한과 책임을 확대하고 그들의 역할을 재정립하는 기반이 될 것으로 기대한다. 이 연구의 초점은 제조업에만 있으므로 더 다양한 산업 분야로 연구를 확대되어야 할 것이다.

주제어 : 제조업, HR 부서, 교육훈련만족, 조직유 효성, 직무만족, 조직몰입

*This research was financially supported by Hansung University.
*Corresponding Author : Seok Kee Lee(seelee@hansung.ac.kr)
1. Introduction

Due to competition with emerging manufacturing powerhouses, the beginning of the 4th industrial revolution, strengthening environmental regulations, and changes in the demographic structure, the existing quantitative chasing strategy of Korea's manufacturing industry has reached its limits. And as the growth slowdown is progressing, concerns are rising. Innovation is necessary to overcome the rapidly changing global competitive environment and the immediate crisis situation, and the subject of innovation will be a member of the organization. The more complex the business environment and the more difficult it is to predict the future, the more important human resources are than physical resources. And the role of the HR department in charge of related tasks is inevitably emphasized. With regard to human resource development, Wright and Boswell (2002) defined it as an ongoing activity, such as training, education and development programs designed to develop employee competencies and organizational performance[1]. And human resource development is regarded as an important competitive resource. Although the importance of human resources is increasingly being emphasized, empirical studies on the interaction between HRD, HR department, and organizational effectiveness are rarely conducted. The purpose of this study is to investigate the effect of the strategic role of the human resources department in the manufacturing industry on organizational efficiency through satisfaction with education and training. Through this, we intend to expand the authority and responsibilities of HR departments and provide the basis for redefining the concept of their roles.

2. Theoretical Background and Prior Research

2.1 Consideration on the domestic manufacturing industry

According to the government's 'Manufacturing Renaissance Vision and Strategy' announced in June 2019, as of 2017, manufacturing accounted for 29.6% of GDP, 90% of exports, and 56% of facility investment. In addition, it occupies 30% of the added value of all industries, and has driven Korea's economic growth by approaching 50% in output. However, with competition from emerging manufacturing powers such as China, the full-fledged Fourth Industrial Revolution, tightened environmental regulations and changes in population structure, our manufacturing industry's quantitative pursuit strategy has reached its limits, and concerns are mounting as growth slows down[2].

2.2 Role of HR Department

In a rapidly changing global competitive environment and slowing growth, the importance of human resources is increasing and investment in human resources is increasing, and accordingly, the role of the HR department is more emphasized. Cha Young-deok (2010) argued that human resources are inherent resources within a company that bring continuous competitive advantage, and the department that supports them is the HR department[3]. The roles of the HR department can be classified into four categories. The first is a long-term role characteristic. It actively participates in a large scale of an organization's management-related strategies, and plays a role as a 'strategic partner' that aligns HRM strategies and activities with the organization's strategic goals in the process of execution. The second is the role of 'change promoter' in which HR departments actively manage changes in members and take the initiative in developing organizations. Third, as a short-term role characteristic, it helps to meet individual needs
and solve problems by grasping the grievances and desires of each member of the organization, thereby encouraging the morale of members and performing human relations activities to improve work commitment. It is the role of member advocate. Lastly, as a traditional role characteristic, it is a “personnel management expert” role that designs and implements a rational and efficient personnel management process consisting of hiring, education and training, evaluation, promotion, compensation, and placement management[4]. The meaning and role of the human resources department in a company is increasing in importance, weight, and scope along with changes in the management environment and paradigm of personnel management. For this reason, if the role of the human resources department is grafted in order to efficiently implement the business strategy for creating a company's performance, it will be possible to secure a competitive advantage more effectively[5].

2.3 Education and Training Satisfaction

Education and training conducted in the enterprise includes training and tasks directly related to the members' jobs, as well as education for more comprehensive growth of each member. Regarding education and training satisfaction, Daebong Kwon et al. (2002) stated that it is a function of the positive and pleasurable emotional state obtained from the evaluation of each member's own educational experience, that is, the degree of desire satisfaction expressed from education[6]. And as a result of each individual participating in education and training evaluating their own educational experience, it can be said that it is a functional relationship between expectations before participation in education and satisfaction with the results experienced after participation in education[7]. In addition, it can be defined as subjective reactions such as attitudes, behaviors, emotions, perceptions, and motivations to education or programs based on the evaluation of individual members of the organization's experience in education or programs[8].

2.4 Organizational effectiveness

Organizational effectiveness can be said to be the degree to which the organization's goal is achieved by acquiring necessary resources from outside the organization and adapting to the environment while sublimating the needs of the organization's members into the process of achieving the organizational goal[9]. In this study, we will look at the strategic role of the HR department in points of job satisfaction and organizational commitment, which are qualitative indicators that evaluate organizational effectiveness. Job satisfaction is a psychological or emotional state experienced or acquired through the job of each member of the organization, and is the satisfaction of desires acquired based on aptitude, ability, evaluation, and reward[10]. Organizational members have positive or negative attitudes toward the organization depending on how satisfied they are with their job. This proves that job satisfaction is an important factor in organizational effectiveness[11]. Organizational commitment refers to the identification of one organization with oneself, the relative degree of commitment, and how much an individual has a sense of unity with the organization. Organizational commitment represents the tendency to remain without leaving the organization, and can be expressed as loyalty or loyalty to the organization[12]. Organizational members with high organizational commitment will adopt an attitude of comprehensive attachment and loyalty to the organization to which they belong in performing their duties, and will show a sense of unity and high trust in the organization[13].
2.5 Prior research on the relationship between variables

2.5.1 Relationship between HR department and education satisfaction and organizational effectiveness

In the study of Kim Ju-hee (2014), it was found that the strategic role of the HR department had a positive (+) effect on education satisfaction, job satisfaction, and organizational commitment.

Education satisfaction was also found to have a positive (+) effect on job satisfaction and organizational commitment [14].

2.5.2 Relationship between educational satisfaction and organizational effectiveness

In a study by Jang Jin-ho (2020), service education and training in hotel restaurants has a positive (+) effect on employee job satisfaction [15]. In a study of work–learning parallel workplace participants, it was found that satisfaction with education and training has an important effect on the job satisfaction and organizational commitment of the organization [16].

2.6 Research differentiation

Previous studies have dealt with the role of the HR department and the effects of HRM and HRD on organizational effectiveness, respectively. However, in more detail, this study empirically investigated the effect of the role of HR department on organizational effectiveness through education and training satisfaction. In addition, this study investigated the effect of the role of developing and executing education and training in accordance with the corporate management strategy among the roles of HR departments on organizational effectiveness.

Finally, research and analysis were conducted on 8,072 people from 329 manufacturing companies that are playing the role of saviors in the economic crisis caused by COVID-19. The size of the sample in this study is at a level that can be expanded to a general concept only for the domestic manufacturing industry.

3. Research design and method

3.1. Research model and hypothesis

Previous research has shown that the strategic role of the HR department has a significant impact on the effectiveness of an organization. In this study, a research model was designed as shown in Fig. 1 to find out the effect of the HR department’s strategic role on the effectiveness of the organization through education satisfaction in the manufacturing industry that is leading the economic growth of Korea.

![Research Model](image)

**Fig. 1. Research Model**

H1. The strategic role of the manufacturing HR department will have a positive impact on education and training satisfaction.

H2. Satisfaction with education and training has a positive effect on an organization effectiveness.

H3. The strategic role of the manufacturing HR department has a positive impact on organizational effectiveness.

H4. Education and training satisfaction is mediated in the relationship between the HR department’s strategic role and organizational effectiveness.

3.2 Research data and target

This study conducted an empirical analysis using data from the 7th (2017) of the Human Capital
Enterprise Panel (HCCP) survey conducted by the Korea Vocational Competency Development Institute (hereinafter referred to as “KRIVET”). This material is provided only for academic purposes on the KRIVET website. The Human Capital Enterprise Panel is an official national statistical data conducted to understand the quantitative and qualitative level of manpower possessed by Korean companies, and to understand the contents and process of accumulating human resources within the company. Since it was first conducted in 2005 under the supervision of KRIVET, it has been carried out as a mid-term panel survey of the same target companies every two years. The subject of this study was all employees, excluding managers, regardless of size. Of the 10,005 questionnaires for workers, 8,072 of the manufacturing workers’ questionnaires were used for the analysis.

3.3 Operational definition and measurement of variables

3.3.1 Independent variables

The strategic role of the HR department was defined as the role of actively participating in the establishment of strategies related to corporate management, actively inducing change of members through HRM and HRD, and developing competencies to achieve corporate goals[17]. This study focused on the role of human resource development, and it can be said to be the role of developing education and training that fits the business strategy of a company and enabling all members to participate in education. The measurement questionnaire was composed of four as follows. (1) Make an important contribution in the process of establishing a management strategy. (2) It has a significant impact on the decisions of top management. (3) Play a leading role in the continuous improvement and implementation of the personnel system. (4) We lead the company's change and innovation.

3.3.2 Parameter

Education and training satisfaction is the result of each individual participating in education and training evaluating their own educational experience, and it was defined as a functional relationship between expectations before participating in education and satisfaction with the results experienced after participation in education.[18]. The measurement questionnaire was composed of five as follows. (1) Education and training are sufficiently conducted in our company. (2) In our company, opportunities for education and training are evenly distributed to our employees. (3) Employees of our company want to receive training from each other. (4) The contents of our company’s education and training are highly related to jobs. (5) Our company’s education and training are contents that can be applied directly to the field.

3.3.3 Dependent variables

Among organizational effectiveness, job satisfaction was defined as the degree of satisfaction of needs obtained in accord with one's aptitude, ability, evaluation, and reward as a psychological or emotional state experienced or gained by each member of the organization[19]. The measurement questionnaire was composed of three as follows. (1) I am satisfied with what I am currently doing. (2) I am satisfied with the salary I am currently receiving. (3) I am satisfied with my current workplace relationship. Organizational commitment is the same as loyalty to the organization, and the members of the organization identify with the organization and actively conform to the organization’s goals and values, and are defined as the attitude to remain in the organization[20]. The measurement questionnaire was composed of three as follows. (1) I feel the problem of this company like my
problem. (2) If I leave this company, I will lose a lot in my life. (3) This company deserves my loyalty.

4. Results

4.1 Empirical analysis result

4.1.1 Demographic characteristics analysis

The demographic characteristics are shown in Table 1.

Table 1. The Characteristics of Samples

<table>
<thead>
<tr>
<th>Categories</th>
<th>Frequencies</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distribution by position</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employee level</td>
<td>2,667</td>
<td>33</td>
</tr>
<tr>
<td>Chief level</td>
<td>810</td>
<td>10</td>
</tr>
<tr>
<td>Deputy level</td>
<td>1,186</td>
<td>14.7</td>
</tr>
<tr>
<td>Manager level</td>
<td>1,058</td>
<td>13.1</td>
</tr>
<tr>
<td>Deputy General</td>
<td>856</td>
<td>10.8</td>
</tr>
<tr>
<td>Manager's level</td>
<td>729</td>
<td>9.2</td>
</tr>
<tr>
<td>Executive level</td>
<td>55</td>
<td>0.7</td>
</tr>
<tr>
<td>Production manager level</td>
<td>701</td>
<td>8.7</td>
</tr>
<tr>
<td>Total</td>
<td>8,072</td>
<td>100</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>male</td>
<td>6,547</td>
<td>81.1</td>
</tr>
<tr>
<td>female</td>
<td>1,525</td>
<td>18.9</td>
</tr>
<tr>
<td>Total</td>
<td>8,072</td>
<td>100</td>
</tr>
<tr>
<td>Occupation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>managerial position</td>
<td>4,307</td>
<td>53.4</td>
</tr>
<tr>
<td>Production management</td>
<td>246</td>
<td>3</td>
</tr>
<tr>
<td>position</td>
<td>3,519</td>
<td>43.6</td>
</tr>
<tr>
<td>production job</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>8,072</td>
<td>100</td>
</tr>
<tr>
<td>Final education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junior high school graduate or less</td>
<td>141</td>
<td>1.7</td>
</tr>
<tr>
<td>Graduated from Humanities</td>
<td>835</td>
<td>10.3</td>
</tr>
<tr>
<td>High School</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduated from Technical</td>
<td>1,140</td>
<td>14.1</td>
</tr>
<tr>
<td>High School</td>
<td>752</td>
<td>9.3</td>
</tr>
<tr>
<td>Other vocational high school graduates</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College graduate</td>
<td>1,362</td>
<td>16.9</td>
</tr>
<tr>
<td>university graduate</td>
<td>3,500</td>
<td>43.4</td>
</tr>
<tr>
<td>Master’s graduation</td>
<td>326</td>
<td>4</td>
</tr>
<tr>
<td>Ph.D. graduation</td>
<td>16</td>
<td>0.2</td>
</tr>
<tr>
<td>Total</td>
<td>8,072</td>
<td>100</td>
</tr>
</tbody>
</table>

eigenvalues of 1.0 or more and factor loadings of 0.4 or more were used as the standard. There were no factors removed during the factor analysis, and the total variance explained was found to be 70.62%. Variables were named as HR department strategic role, education and training satisfaction, job satisfaction, and organizational commitment, and reliability analysis was conducted on these. Each factor appeared to be a reliable level, and all items were used. The Cronbach's coefficient value of each variable was distributed between .728-.909, and the details are as in Table 2.

Table 2. Exploratory Factor Analysis and Reliability Test

<table>
<thead>
<tr>
<th>Measurement variables</th>
<th>HRDS1</th>
<th>HRDS2</th>
<th>HRDS3</th>
<th>HRDS4</th>
<th>HRDS5</th>
<th>HRDS6</th>
<th>HRDS7</th>
<th>HRDS8</th>
</tr>
</thead>
<tbody>
<tr>
<td>HR</td>
<td>.870</td>
<td>.853</td>
<td>.843</td>
<td>.836</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>JS</td>
<td>.818</td>
<td>.810</td>
<td>.795</td>
<td>.739</td>
<td>.683</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OCT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.790</td>
<td>.777</td>
</tr>
<tr>
<td>Total</td>
<td>.709</td>
<td>.765</td>
<td>.722</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.1.2 Feasibility and reliability analysis

Feasibility and reliability analyzes were performed on all items. First, an exploratory factor analysis was conducted to confirm the validity. In order to extract factors and simplify factor loading, principal component analysis and orthogonal rotation were adopted, and
by one based on the SMC(Squared Multiple Correlation) value, which is an index used to
determine how much a measurement variable
describes a potential variable, was repeatedly
performed. After removing all of the HR
department’s strategic roles 1, 2, education
satisfaction 3, 4, 5, job satisfaction 2, and
organizational commitment, all of the fitness
indices were found to satisfy the standard values.
Standardized regression coefficients were all
above 0.7, CR above 0.7, and AVE above 0.5,
confirming that there is no problem in
centralized validity.

Table 3. Confirmatory Factor Analysis and Goodness of
Fit of Measurement Model

<table>
<thead>
<tr>
<th>Measurements</th>
<th>KW</th>
<th>SR</th>
<th>SE</th>
<th>CR</th>
<th>AVE</th>
<th>SMC</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRDS</td>
<td>1.091</td>
<td>.889</td>
<td>.020</td>
<td>54.80</td>
<td>.978</td>
<td>.782</td>
</tr>
<tr>
<td>SET</td>
<td>1.000</td>
<td>.882</td>
<td>.016</td>
<td>63.77</td>
<td>.888</td>
<td>.799</td>
</tr>
<tr>
<td>JS</td>
<td>1.000</td>
<td>.779</td>
<td>.023</td>
<td>36.73</td>
<td>.835</td>
<td>.718</td>
</tr>
</tbody>
</table>

4.1.4 Discriminant validity analysis

After analyzing the measurement model, the
discriminant validity of the model was evaluated.
As a result of analysis, it was found that the square
of the correlation coefficient between all the variables
did not exceed the AVE value, thus ensuring
discriminant validity, and the results are shown in Table 4.

Table 4. Validity assessment results of the measurement
model

<table>
<thead>
<tr>
<th>Latent variable</th>
<th>HRDS</th>
<th>SET</th>
<th>JS</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRDS</td>
<td>.762</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SET</td>
<td>.463</td>
<td>.799</td>
<td></td>
</tr>
<tr>
<td>JS</td>
<td>.418</td>
<td>.478</td>
<td>.718</td>
</tr>
</tbody>
</table>

4.2 Structural model analysis

As a result of the structural model analysis, it
was confirmed that the strategic role of the HR
department had a positive (+) effect on the
satisfaction of education and training(β = .463,
p < .001) and hypothesis 1 was supported.
Education and training satisfaction was found to have
a positive (+) effect on job satisfaction(β = .363,
p < .001) and hypothesis 2 was supported. In
addition, the strategic role of the HR department
was confirmed to have a positive (+) effect on
job satisfaction(β = .250, p < .001) and hypothesis
3 was also supported. The analysis results are
shown in Table 5, and when shown as a figure,
it is shown in Fig. 2.

Figure 2. Structural Path

Table 5. Hypothesis test results

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Path</th>
<th>SE</th>
<th>t</th>
<th>P-value</th>
<th>SRW</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>HRDS → SET</td>
<td>.014</td>
<td>35.662</td>
<td>***</td>
<td>.463</td>
<td>Adopted</td>
</tr>
<tr>
<td>H2</td>
<td>SET → JS</td>
<td>.019</td>
<td>23.429</td>
<td>***</td>
<td>.363</td>
<td>Adopted</td>
</tr>
<tr>
<td>H3</td>
<td>HRDS → JS</td>
<td>.011</td>
<td>16.450</td>
<td>***</td>
<td>.250</td>
<td>Adopted</td>
</tr>
</tbody>
</table>

Structure model fit:
CMIN=17.551, df=6, p=.007, CMIN/DF=2.925,
RMSEA=.099, AGFI=.999, CFI=.999,
RMSEA=.015

*** P<.001
4.3 Mediated effect analysis

With the Bootstraping method, we analyzed whether education and training satisfaction has a mediating effect on the relationship between the strategic role of HR department and organizational effectiveness. As a result of the analysis, it was confirmed that the mediating effect of satisfaction with education and training was significant, and the analysis results are shown in Table 6.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Path</th>
<th>Indirect effect</th>
<th>P-value</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>H4</td>
<td>HRDS → SET → JS</td>
<td>.168</td>
<td>.004</td>
<td>Adopted</td>
</tr>
</tbody>
</table>

5. Conclusions

5.1 Summary and Implications of the Study

Through this study, we analyzed the effect of the strategic role of the HR department in the manufacturing industry on the organizational effectiveness through education and training satisfaction. This study tried to reveal the relationship between the role of the HR department and organizational effectiveness in manufacturing companies that have been driving economic growth in Korea, but whose growth has recently been slowing due to various factors, and the results of the study are as follows. First, as a result of analyzing the effect of the HR department’s strategic role on education and training satisfaction, it was found to have a positive effect. This can be attributed to the HR department driving change and innovation and developing and actively implementing education and training programs that meet the latest trends. Second, education and training satisfaction was found to have a positive effect on job satisfaction among organizational effectiveness. Participation in education and training programs should focus on the traditional role of HR, you should focus on strategic, innovative activities.
5.2 Limitations of the study

As this study is limited to the manufacturing industry, there are limitations in applying it to all industries.

And there is a need to expand research by applying more variables to the role of the HR department. For example, there are studies on the mediating effect of the compensation system or the modulating effect of self-efficacy. However, it is significant in that it provided evidence for the re-establishment of HR roles and expansion of authority and responsibility in the manufacturing industry with a high proportion of SMEs.

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- 2010년 2월 : 아주대학교 경영대학원 (경영학석사)  
- 2021년 6월 현재 : 한성대학교 스마트융합컨설팅학과 수료  
- 관심분야 : 인사-조직, 컨설팅  
- E-Mail : blackhole94@hanmail.net

이석기(Seok Kee Lee)  
- 2009년 8월 : 한국과학기술원 경영공학(공학박사)  
- 2012년 3월 ~ 현재 : 한성대학교 컴퓨터공학부 교수  
- 관심분야 : 데이터마이닝, 박테리아, 컨설팅  
- E-Mail : seelee@hansung.ac.kr

김성동(Sung-Dong Kim)  
- 1999년 8월 : 서울대학교 컴퓨터공학과 (공학박사)  
- 2021년 3월 ~ 현재 : 한성대학교 컴퓨터공학부 교수  
- 관심분야 : 자연언어처리, 인공지능, 기계학습  
- E-Mail : sdkim@hansung.ac.kr