CHAPTER 8
IMPACT OF VOCATIONAL EDUCATION ON EFFECTIVE UTILISATION OF HUMAN RESOURCE
8.1 INTRODUCTION

It not only suffices that a vocational education qualification should lend employability to the human resources of the state. But it is also important that individuals with a vocational qualification are effectively utilised. The effective utilisation of human resources is reflected by the absorption of the human resource in an employment situation that commensurate with their qualification. The work-skills earned by out-turns of vocational education should be put to the right use at the right place. The ineffectiveness in the use of vocationally qualified human resource would defeat the purpose of equipping them with vocational education. This chapter is an attempt to look into the utilisation of vocational education in employment terminals.

8.2 ASSESSING THE EFFICIENCY OF UTILISATION OF VOCATIONAL EDUCATION

The absorption of the vocational education out-turns in employments that did not make use of their specific work-skills would lead to wastage of time and resources spent in their work-preparedness. The research work therefore investigated into the effective utilisation of vocationally qualified people by analysing the utilisation of the vocational education out-turns employed in the various employment terminals that comprised the study group for this work. To look into the aspect of utilisation of the labour with vocational education, the following query was placed in the questionnaires forwarded to the out-turns of vocational education:

*Is the work related to the vocational skill acquired?*

The responses of the respondents to the above query have been categorised into three groups as:

- Highly Efficient Utilisation (HEU) for workers whose work commensurate their vocational skills acquired.
- Moderately Efficient Utilisation (MEU) for those whose work is somewhat related to their vocational skill acquired.
- Inefficient Utilisation (IU) of skills for those whose work was totally different from the skill acquired.
Of these three categories, the utilisation of the first category of vocational education out-turns is highly efficient because there was a synchronisation between their work preparation and the type of work they were doing in their respective employment positions. The utilisation of the second category of vocational education out-turns is moderately efficient because the work that they were absorbed in was only somewhat related to the work preparation endowed by their vocational education. But, the vocational education out-turns belonging to the third category are ineffectively utilised for the reason that there was a deviation between their work-preparation and the type of work they were doing. The representation of vocational education out-turns in these three categories is shown in the following table:

<table>
<thead>
<tr>
<th>Vocational Skill Utilisation</th>
<th>Employee Representation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly Efficient Utilisation (HEU)</td>
<td>592 (92.5)</td>
</tr>
<tr>
<td>Moderately Efficient Utilisation (MEU)</td>
<td>25 (3.9)</td>
</tr>
<tr>
<td>Inefficient Utilisation (IU)</td>
<td>23 (3.6)</td>
</tr>
<tr>
<td>Total</td>
<td>640 (100)</td>
</tr>
</tbody>
</table>

*Figures in parentheses denote percentage of total
Source: Field Survey Data

The vocational education out-turns comprising the study group for this research work present a picture of effective utilisation in their employment positions. As is reflected by Table 8.1 it is seen that the HEU and MEU groups together comprise 96.4% of the vocational education out-turns. On the other hand, only 3.6% of the vocational education out-turns are seen to belong to the category of IU.

The representation of the above table in Fig 8.1 below gives a diagrammatic assessment of the utilisation of vocational education out-turns in the various employment terminals.
As is evident in **Fig 8.1**, a majority of the vocational education out-turns encountered in the field survey, absorbed in employment terminals, have experienced highly efficient utilisation followed by a small percentage that were moderately utilised. Those belonging to the MEU category, maintain that their vocational qualification encompassed more work preparation than what their jobs commanded. In other words, these vocational education out-turns reported doing work that involved less application of the knowledge and skills that they acquired as part of their vocational education and training. That they were working below their capacity upholds their being moderately efficiently utilised. One of such respondents belonging to the category of MEU maintained that though he had an ITI qualification in “MMV”, yet, he was working as a machine operator and hence his work was only somewhat related to what he was taught to do.

But, the small percentage of vocational education out-turns constituting the category of IU has been observed to be doing work that was totally different from the vocational education that they acquired. People with specific vocational qualifications in banking who have reported doing work different from what they were being taught to do may
also be said to be belonging to this category. The inefficiency in the utilisation of these vocational education out-turns can be attributed to a lack of synchrony between vocational education institutes and the demands of the employment terminals. The out-turns of vocational education system that may be categorised in this group have also been identified in certain public sector units where they were doing work for which they were not prepared at all. This is also observed among a few products of ITIs who were found to be doing jobs involving different vocational skills than what they acquired. For example, a person with an ITI qualification of a “turner” may be working as a “fitter”. So there are a few cases like this where, the vocational education manpower has been found to be inefficiently utilised. Vocational Education out-turns falling in the category of IU have also been found to be present in the petroleum sector where people with a textile diploma were seen working in capacities and departments that do not make use of their qualification. These are the cases where we see people involved in work that deviates from their qualification. A few of these respondents are products of ITIs working in certain government departments. This ineffective utilisation of vocational education as observed in certain employment terminals may sometimes be attributed to the fact that job positions call for products of specific vocational institutions without specifying the particular vocational skill required.

8.3 TESTING OF HYPOTHESIS

In order to test the null hypothesis that vocational education does not impact the effective utilisation of labour, a binary logistic regression was conducted. To facilitate the conduct of the logistic regression, the study categorised the three utilisation groups identified for the purpose of this study into two broad categories:

- **Efficient Utilisation** incorporating workers who indicated being highly and moderately efficiently utilised.
- **Inefficient Utilisation** incorporating workers who indicated being inefficiently utilised.

The logistic regression model used “effective utilisation” of the vocationally qualified manpower as the dependent variable and the ‘years of vocational education” as the independent variable. The model thus used is:
\[ \ln(Y/1-Y) = a + bV \]

Where,
- \( \ln \) denotes natural log
- \( a \) is a constant;
- \( b \) is the regression coefficient of the years of vocational education;
- \( Y \) is the outcome variable - Efficient Utilisation = 1, Inefficient Utilisation = 0;
- \( V \) is the years of vocational education

The application of the model yields the following results:

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE</th>
<th>Wald</th>
<th>df</th>
<th>Sig</th>
<th>Odds Ratio (ExpB)</th>
<th>95% CI for Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>2.552</td>
<td>.396</td>
<td>41.472</td>
<td>1</td>
<td>.000</td>
<td>12.828</td>
<td></td>
</tr>
<tr>
<td>Years of Vocational Education</td>
<td>.468</td>
<td>.240</td>
<td>3.809</td>
<td>1</td>
<td>.051*</td>
<td>1.596</td>
<td>.998 to 2.554</td>
</tr>
</tbody>
</table>

*Significant at 10%

Note:
Hosmer & Lemeshow = 0.72, \( R^2 = .01 \) (Cox & Snell), \( .02 \) (Nagelkerke), Model \( \chi^2(1) = 4.08, p = .043 \)

The significance of the Model \( \chi^2 \) at 5% indicates that the model predicts the effective utilisation of labour with vocational education better than chance. However, as indicated by \( R^2 \), the years of vocational education explains small amount of variation in the utilisation of the vocationally qualified manpower. But, the non-significance of the \( \chi^2 \) value in the Hosmer & Lemeshow Test indicates the goodness of fit in classifying the dependent variable.

The odds ratio shows that an increase of vocational education by 1 year increases the odds of being effectively utilised by 1.596. In 95% of the samples drawn from the population, the odds ratio can be expected to lie within the interval .998 to 2.554. Based on these statistics, it can be stated that vocational education impacts the effective utilisation of human resource; however, the results have pointed to a weak impact. This
research work rejects the null hypothesis and accepts that vocational education impacts the effective utilisation of human resource.

8.4 SECTORAL DIFFERENCES IN RELATION OF WORK TO SKILL
It is observed that the vocational education manpower absorbed in various employment terminals have indicated variation in the utilisation of their vocational skill. This necessitates a look into the skill utilisation of vocational education out-turns in different types of employment terminals.

8.4.1 Government sector -private sector vocational skill utilisation
The private sector-government sector difference in vocational skill utilisation is shown with the help of the following bar diagram:

As is reflected in Fig 8.2 above, amongst the vocationally qualified employees absorbed in the government sector, while 92% have indicated that their skills have been highly efficiently utilised, 3.1% have given an indication of experiencing moderately efficient utilisation. Therefore, the government sector gives a picture of efficient utilisation of its vocational education out-turns as the HEU and MEU groups together account for 95.1% of the respondents. However, the private sector takes precedence over the government sector with regard to the effective utilisation of vocational education out-turns, with 92.8% representation in the category of HEU and 4.3% in the category of MEU.
Fig 8.2 reflects the percentage representation of the three categories of skill utilisation in government and private sector employment terminals. But, on a comparative note, it may be stated that in the government sector, the picture of inefficiency in skill utilisation is more as reflected by 4.9% representation in the category of “Ineffective Utilisation”. As against this, in the private sector the representation by this category of skill utilisation is only 2.9%. Overall, the picture of utilisation of vocational skills in work environment point to a more effective utilisation of the labour with vocational education in the private sector than in the government sector. This is substantiated by the fact that as compared to the government sector, the private sector has exhibited the following two observations:

✓ Those in the categories of Highly Efficient Utilisation and Moderately Efficient Utilisation together account for a greater percentage of respondents.
✓ Those in the category of Inefficient Utilisation account for a smaller percentage of respondents.

These two observations speak in favour of the private sector employment terminals with regard to the effective utilisation of labour with a vocational education.

8.4.2 Vocational Skill Utilisation by various sectors

It is observed that all the nine sectors stratified for the purpose of this study have shown higher percentage representation of vocational education out-turns in the category of HEU. In fact, in all sectors, baring Human Health and Social Work activities sector, there has been 90% and above representation of vocational education out-turns who have indicated that their skills have been highly utilised. A few respondents belonging to this sector, equipped with vocational qualifications in paramedical and pharmacy courses have experienced moderately efficient and inefficient utilisation of their skills respectively. Therefore, in the Human Health and Social Work Activity sector the MEU and IU groups are accounted for by 17% of the vocational education out-turns, thus lowering the representation of this sector in the category of HEU. The percentage representation of the HEU category has been the highest in the Education and the Other
Service Activity sectors where the entire respondents find representation in this category. In the Education sector, the reason that can be attributed to this is that all respondents are involved in teaching the subject in which they attained their vocational education qualification. The Other Service Activity sector comprises people with qualification in beauty and skin care, mobile phone repairing etc who have not shown any deviation between their work participation and skill attainment.

In all the sectors, it is also observed that the vocational education out-turns that have indicated being either moderately efficiently utilised or inefficiently utilised constitute very small percentages. The picture of skill utilisation of vocational education out-turns in the nine stratified sectors is reflected in the following sub-divided bar diagram (Fig 8.3)

![Fig 8.3 SKILL UTILISATION IN SECTORS](source)

From Fig 8.3, it is observed that all sectors have the highest representation from vocational education out-turns who have experienced highly efficient utilisation of their skills. However, the variation in the number of respondents in the different sectors may
be a factor that has accounted for the differences in the percentage representation of vocational education out-turns in the three categories in the different sectors.

It is also observed from the diagrammatic presentation of the data that the Education and Other Service Activity sectors do not point to the presence of vocational education out-turns who have indicated being either moderately efficiently or inefficiently utilised. Moreover, the Information and communication sector also does not have representation of vocational education out-turns who have experienced inefficient utilisation of their vocational skills. The recruitment of employees according to the requisite vocational qualification required by the particular job position is a factor that has contributed to their effective utilisation.

As far as the MEU category is concerned, of the total number of respondents in each sector, the highest representation has been in the Human Health and Social Work Activity sector, followed by the Manufacturing sector. The ineffective utilisation of human resource with vocational skills as captured by the Inefficient Utilisation category is reflected most amongst the vocational education out-turns in the Financial and Insurance Activity sector followed by the Manufacturing sector. On the whole, however, the field data do not point to predominance of employees belonging to the categories of MEU and IU. Alternatively, it is observed from the above presentation of the field data that the HEU group predominate over the other two groups of skill utilisation of vocational education out-turns in all the sectors. Moreover, the HEU and MEU categories of skill utilisation together account for 95% and above of the vocational education out-turns in each sector. The field study data, therefore, upholds the effective utilisation of the labour with vocational qualification and justifies the pursuance of a vocational education. But, what needs to be asserted is the stage of general education background where a diversion towards a vocational education would generate the greatest benefit in terms of vocational skill utilisation.
8.5 PICTURE OF EFFECTIVE UTILISATION OF VOCATIONAL EDUCATION OUT-TURNS WITH DIFFERENT BASE EDUCATION LEVELS

In order to help make effective policy decisions regarding vocational education, it is also necessary to have a clear view about the level of base education at which the diversion to a vocational education can be made. One of the approaches would be knowledge about the differences in the utilisation of labour noticed amongst vocational education out-turns with different base education background with respect to the indicators discussed in this chapter. The research work looked into the utilisation of labour with vocational education of diverse general educational background that comprised the study group. The out-turns’ responses regarding the relation of their work to their skill attained are shown below:

Table 8.2 Skill Utilisation and Base Education of Vocational Education Out-turns

<table>
<thead>
<tr>
<th>Base Education Background</th>
<th>Representation of Vocational Education Out-turns</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Highly Efficient Utilisation</td>
<td>Moderately Efficient Utilisation</td>
</tr>
<tr>
<td>Below Matric (VIII pass)</td>
<td>15 (88.2)</td>
<td>1 (5.9)</td>
</tr>
<tr>
<td>Matric</td>
<td>194 (91.9)</td>
<td>11 (5.2)</td>
</tr>
<tr>
<td>Intermediate</td>
<td>263 (92.9)</td>
<td>11 (3.9)</td>
</tr>
<tr>
<td>Graduate</td>
<td>120 (93.0)</td>
<td>2 (1.6)</td>
</tr>
<tr>
<td>Total</td>
<td>592 (92.5)</td>
<td>25 (3.9)</td>
</tr>
</tbody>
</table>

*Figures in Parentheses denote percentage within the specific base education.
Source: Field Survey Data

It is observed from Table 8.2 that across all levels of base education of vocational education out-turns, the highest representation of samples has been in the category of “Highly Efficient Utilisation”. This category has found lowest representation from amongst those who pursued a vocational education after completing the VIII Standard, with 88.2% of these out-turns indicating that they were highly efficiently utilised. However, amongst the vocational education out-turns in each of the other three base education categories 90% and above are observed to be highly efficiently utilised. Those out-turn that have indicated being either moderately efficiently utilised or inefficiently utilised constitute a small fraction in each of the four base education categories. However, the HEU category predominates over the other two categories in
case of all the four base education levels. Moreover, the HEU and MEU categories together account for 94% and above of the vocational education out-turns in all the base education categories.

On a comparative note, the picture derived from the field study reflects that the HEU and MEU categories together account for 97.1% while the IU category accounts for only 2.8% of the total vocational education out-turns with matriculation as a base education. Compared to the matriculates, for all other base education groups, the HEU and MEU categories have together accounted for slightly lower representation of vocational education out-turns and the IU category has reflected slightly higher representation. With respect to the MEU and IU categories, it is seen that only the vocational education out-turns with graduation as a base education have a greater percentage representation in the latter category. The graduates with vocational courses in banking who indicated being inefficiently utilised may have contributed to the greater representation of vocational education in the IU category.

Therefore, in terms of utilisation of vocational education out-turns, those with matriculation as a base education give a picture of greater utilisation of their vocational skills. Viewed from this perspective, acquisition of a vocational education after matriculation appears encouraging.

8.6 VOCATIONAL EDUCATION AND EFFECTIVE UTILISATION OF HUMAN RESOURCE: A GENDER PERSPECTIVE

The gender-based picture of utilisation of vocational education out-turns in terms of the three categories identified for the purpose of this research work is shown in the following table:
Table 8.3 Gender Perspective of Vocational Skill Utilisation

<table>
<thead>
<tr>
<th>Gender</th>
<th>Highly Efficient Utilisation</th>
<th>Moderately Efficient Utilisation</th>
<th>Inefficient Utilisation</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>443(91.9)</td>
<td>18(3.7)</td>
<td>21(4.4)</td>
<td>482(100)</td>
</tr>
<tr>
<td>Female</td>
<td>149(94.3)</td>
<td>7(4.4)</td>
<td>2(1.3)</td>
<td>158(100)</td>
</tr>
</tbody>
</table>

*Figures in Parentheses denote percentage within gender
Source: Field Survey Data

The primary data gathered for the purpose of this research work points out that for both males and females, the highest representation has been in the category of “Highly Efficient Utilisation”. On a comparative note, female vocational education out-turns, comprising 94.3% in the HEU category, give a picture of more effective utilisation than their male counterparts. It is reflected from the primary data that all the female respondents with a vocational education, working in the Construction, Information and Communication, Financial and Insurance Activity, Education, Hospitality and Other Services Activity Sectors have indicated that their skills have been highly utilised. In the remaining three sectors also, the women respondents in the category of HEU constitute 85% and above. Examples of such vocational education out-turns are teachers with specific vocational skills teaching the subject, nurses with ANM and GNM diplomas and those working with vocational skills in the beauty sector. This may have contributed to a higher representation of female vocational education out-turns in the HEU category.

In case of female employees, it is also seen that HEU and MEU categories together account for 98.7% of the respondents. As against this, the above two categories account for 95.6% of the male vocational education out-turns. Moreover; amongst the female vocational education out-turns only 1.3% indicated being inefficiently utilised; the male representation in the category of IU is observed to be 4.4%. On a comparative note, the field data, therefore, upholds a more effective utilisation of the female workers with a vocational education.

8.7 CONCLUSION

This chapter, thus, investigates into the nature of utilisation of the labour with vocational education in the employment market. The primary data on employees with

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vocational education collected for this research work has been studied to elucidate the impact that vocational education has on the effective utilisation of human resource. The study reveals that there exist sectoral differences in the utilisation of labour with vocational education. Overall, however, by observing the primary data, the picture that is presented is one of effective utilisation of employees who are equipped with a vocational education as very high proportion of the vocationally qualified employees have acknowledged that their nature of employment has done justice to the education that they acquired. The results of the binary logistic regression conducted to test the Null Hypothesis has indicated that the years of vocational education impacts the effective utilisation of labour with vocational education. Therefore, the generalisation that is arrived at in this chapter is that vocational education impacts the effective utilisation of human resource.