

Skill as an Input



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In the Indian National economy there are various sectors, producing a variety of goods or services for catering to the needs of the general public at large, including the industrial sector. Industrial sector covers various industries. In national economy; in every sector; in every industry and in every part of the industry, number of production units operates. The manufacturing units carry out production of a good or service by making use of various production processes available in the industry.

Immaterial of the sector, industry or manufacturing unit in an economy, a production process transforms various inputs into output. The choice of adopting a particular production process by an entrepreneur depends on the quantity and quality of various inputs or factors of production available to him/her. The quantity and quality of various inputs available in an economy largely depends upon the policies and programmes framed by the Government of the country. The government allocates various inputs amongst different sectors of the economy and amongst different industries of the same sector.

According to **Singh (1999)**, there are six inputs or factors of production utilized to carry out a production process, namely labour, skill, capital, energy, pollution-free environment and infrastructure. Utilization of different inputs including workforce is regulated through the policies and programmes related to Investment Planning (IP). Skilled manpower is produced through the policies and programmes related to Human Resource Development (HRD). Technologies, energy and pollution-free environment are the outcomes of the policies and programmes related to Research and Development (R&D). Infrastructural facilities and services are created and maintained through the policies and programmes related to Fiscal System (FS).

Labour is represented by workers who supply physical or mental efforts for producing goods and services (**Khanna 1986**).

Human Skills are the main forces accelerating the pace of economic development. According to **Guilford (1971)**, labour productivity of a person is a key function of his skill level.

Capital can be defined in terms of fixed capital and circulating capital. Fixed capital is the term traditionally used to indicate durable means of production, that is all those inputs of the production process that are not exhausted in one single period of production such as tools, machines and equipments. Circulating capital consists of non-durable means of production and includes raw materials, energy, direct labour, semi finished goods etc. (**Eatwell et al 1987**)

Energy is the capacity of a system to produce external activity. It is a generic term used to cover the sources of heat and power (**Malcom 1982**).

Pollution-Free Environment is a crucial factor of production. **Allaby (1979)** states that pollution is basically a direct or indirect alteration of the physical, thermal,

biological or radioactive properties of any part of the environment in such a way as to create a hazard or potential hazard to the health, safety or welfare of any living species.

Infrastructure is an economy's capital in the form of roads, railways, water supplies, educational facilities, health services etc. without which investment in factories, machinery, tools etc. cannot be fully productive (**Taylor 1966**)

Out of the six inputs mentioned above, five inputs, namely labour, capital, energy, pollution-free environment and infrastructure are measurable inputs.

The skill of the worker in performing a particular job is a very crucial input as it has a direct bearing on the efficiency and in turn, on labour productivity. Skill level of a worker is a key function in labour productivity. Skill analysis in human beings plays a very important role in different ways. There may be different types of skills which are required at a work place interalia: decision making skill, leadership skill, communication skill, professional skill, organizational skill and social skill (**Guilford 1971**). All these skills can be measured through a number of tests. A few of typical ones are: (a) intelligence or learning ability test; (b) aptitude or potential ability test; (c) dexterity test; (d) personality test; (e) interest test; and (f) achievement of proficiency test. Besides these, Peer Rating and Jaffe have suggested a methodology to assess the appropriateness of a person for a particular job (**Aggarwal 1995**). Unfortunately, no scale is available to evaluate the skill level of a person in the job. (**Nair 1996**)

Regional and occupational mobility of a person largely depends upon his/her level of skill. The level of education and work experience increases the level of skill of a person. Skill level of a worker plays a very pivotal role in deciding the level of output obtained from the same amount of other inputs utilized. Considering the importance of skill as an input in carrying out production, it becomes imperative to ascertain the skill level of an employee. However, the skill required varies from industry to industry. The present paper puts forward the scales that have been utilized in three different industries, namely sugar industry, apparel industry and powerloom weaving industry.

Table 1 presents the 5-point scale utilized by Singh (2000) for measuring the level of skill in the Sugar industry. This scale takes into account the education level of the workers and gives them a score or rating ranging from 0.2 to 1.0.

Table 1: Scale for measuring skill level in Sugar Industry

S. No.	Qualification	Rating
1	Formal education upto higher secondary or one year job experience	0.2
2	ITI diploma	0.4
3	Polytechnic diploma	0.6
4	Bachelor degree in technology	0.8
5	Scientist and management professional	1.0
Source: Singh, Satbir (2000)		

However, this scale was rendered inappropriate by Bawa (2002) for the Apparel Industry. A 20-point scale ranging from 0.05 to 1.0 was developed for the Apparel

Industry workers which mentioned the criteria as education in terms of diploma/training, experience and mode of working in terms of manual or automated process. Table 2 puts forward the scale for measuring skill level in the Apparel Industry.

Table 2: Scale for measuring skill level in Apparel Industry

S. No.	Criterion			Score or rating
	Diploma / Training	Experience	Manual / Machine	
1	Nil	Upto 5 yrs	Manual	0.05
2	Nil	Upto 5 yrs	Machine	0.10
3	Training	Upto 5 yrs	Manual	0.15
4	Training	Upto 5 yrs	Machine	0.20
5	Nil	6-10 yrs	Manual	0.25
6	Nil	6-10 yrs	Machine	0.30
7	Training	6-10 yrs	Manual	0.35
8	Training	6-10 yrs	Machine	0.40
9	Nil	11-15 yrs	Manual	0.45
10	Nil	11-15 yrs	Machine	0.50
11	Training	11-15 yrs	Manual	0.55
12	Training	11-15 yrs	Machine	0.60
13	Nil	Above 15 yrs	Manual	0.65
14	Nil	Above 15 yrs	Machine	0.70
15	Training	Above 15 yrs	Manual	0.75
16	Training	Above 15 yrs	Machine	0.80
17	One year fashion design diploma			0.85
18	One year fashion design diploma/ experience in industry + computer diploma			0.90
19	Two/ three year diploma or graduation in fashion design			0.95
20	Post graduate			1.00

Source: Bawa, Navneet Kaur, 2002

For the Power loom Weaving Industry, another dimension in the form of salary drawn per month by the workers was added to the criteria for assigning a score or rating ranging from 0.05 to 1.00.

The scale for measuring skill level of the workers in the Power loom Weaving Industry has been presented in Table 3.

Table 3: Scale for measuring skill level in Power loom Weaving Industry

S. No.	Criterion				Score or Rating
	Diploma / Training	Experience	Manual / Machine	Salary per month (in Rs.)	
1	Nil	Upto 5 yrs	Manual	3000-3500	0.05
2	Nil	Upto 5 yrs	Machine	3500-4000	0.10

3	Training	Upto 5 yrs	Manual	3000-3500	0.15	
4	Training	Upto 5 yrs	Machine	3500-4000	0.20	
5	Nil	6-10 yrs	Manual	4000-4500	0.25	
6	Nil	6-10 yrs	Machine	4500-5000	0.30	
7	Training	6-10 yrs	Manual	4000-4500	0.35	
8	Training	6-10 yrs	Machine	4500-5000	0.40	
9	Nil	11-15 yrs	Manual	5000-5500	0.45	
10	Nil	11-15 yrs	Machine	5500-6000	0.50	
11	Training	11-15 yrs	Manual	5000-5500	0.55	
12	Training	11-15 yrs	Machine	5500-6000	0.60	
13	Nil	Above 15 yrs	Manual	6000-6500	0.65	
14	Nil	Above 15 yrs	Machine	6500-7000	0.70	
15	Training	Above 15 yrs	Manual	6000-6500	0.75	
16	Training	Above 15 yrs	Machine	6500-7000	0.80	
17	One year diploma in weaving					0.85
18	One year diploma in weaving / Experience + Computer diploma					0.90
19	Two / Three year diploma or Graduation in weaving technology					0.95
20	Post Graduate					1.00
Source: Gupta, Indu, 2011						

Similarly, scales for measuring skill level of the workers in various industries can be formulated. Once the skill level of a worker is ascertained, it would be easier for an entrepreneur to use the skill matrix in his/ her own manufacturing unit. The workers who require improvement or further training to enhance their skills can be highlighted and necessary action can be taken by the entrepreneur. This would help in improving the quality of the workforce in various sectors of the economy which would have a direct impact on the productivity and the Gross Domestic Product of the nation as a whole.

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