

The industry 4.0 and the need to develop high potentials employees through upskilling and reskilling in context of sustainability goals- Examining the Manufacturing Sector

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Abstract

The manufacturing industry faces significant challenges in identifying and developing high-potential employees due to the rapidly evolving nature of business environments and the essential role of human capital. This study investigates the general perceptions of employers regarding the identification and development of high-potential individuals within the manufacturing sector. By reviewing relevant literature on Human Resource Management (HRM), particularly in areas such as training and development, employee development, and productivity, this research examines existing practices and highlights the necessity for upskilling and reskilling workforce thus to foster high-potential talent. The analysis emphasizes the impact of learning practices on employee learning, role satisfaction, and organizational productivity, drawing insights from cross-industry examples. The findings suggest that a well-structured learning framework and supportive organizational climate can significantly enhance the identification, development, and retention of high-potential employees, thereby sustaining a competitive advantage for manufacturing sector in today's market.

Keywords: High-Potential Employees, Human Resource Management, Manufacturing Industry, Employee Development, Organizational Productivity

1. Introduction

Humans are sociable organisms who almost never work or live-in solitude because of their social nature. They consistently plan, cultivate, and manage their relationships in a conscious as well as an unconscious manner. The relationships are the result of their activities, and their capacity to govern our actions has a significant impact on the strength of those relationships. Every person, beginning in infancy, obtains the information and experience necessary to comprehend people and how to act in each and every circumstance that may arise throughout their lives. In subsequent years, they incorporate this knowledge and comprehension in terms of carrying on and managing interactions at their place of employment. The whole of this fundamental aspect of Human Resource Management is at the center of the framework of handling interpersonal interactions in the workplace. Since the middle of the 1980s, Human Resource Management, abbreviated HRM, [1] has been gaining popularity, acceptability in both the academic community and the business world. The field of HRM is interdisciplinary organizational function that draws theories and concepts from a variety of domains including but not limited to Economics, sociology, management, and psychological study are included. There is no one ideal method of management people, and no manager has yet come up with a plan for how people might be efficiently managed, because human beings are complicated organisms with complicated requirements. Effective HRM relies greatly a great deal on the factors of cause and condition that would be provided by an organizational context. Any People, purpose, and structure are the three fundamental aspects that make up every organization. The

following statement was made by a prominent figure in the area of human resources (HR) in the year 1994: Yesterday, the corporation that has the most access to the most cash or the most recent The most significant competitive [2] advantage belonged to technology; in the present day, businesses that sell items those that provide goods or services of the best quality will have an advantage over their rivals; nonetheless, the only the quality of the employees working for a firm now is the most important factor that will determine the company's competitive edge tomorrow organization. That forecasted future has come to pass in the present day. The majority of managers in both public and private company's businesses in every industry and of every size would likely agree that their employees are their most valuable asset significant asset. Even if a company has skilled workers on its payroll, there is no assurance that it will be successful. The human resources possessed by the company will prove to be a source of competitive advantage. However, in order Keeping up with the competition, expanding, and diversifying your business all need an organization to make sure that its people are competent, managed effectively, put in suitable places, and given enough training efficiently, as well as fully devoted to the development of the company [3]. The aim of human resource is to increase contributions made by workers in order to reach maximum levels of productivity and effectiveness while at the same time accomplishing one's own personal goals (such as working in an environment that challenges one). and achieving notoriety) as well as social goals (such as adhering to the law and achieving) displaying a responsible attitude toward society).

Objective:

This study primarily describes the existing literature on the parameters of learning and development initiatives, employee development organization productivity. The objective of the study include: a) To develops high potential employees and organizational productivity through sustainable practices. b) To establish the limitations and gaps in existing knowledge, thereby ascertaining the scope future research.

Assumption of the study:

Regarding the study, the following two assumptions declared, that the respondents answered the survey honestly and to their best of the ability. The second assumption is that to produce high potential employees there is a need to identify sustainable goals pertaining to training and development.

Statement of the Problem

The problem that is being addressed in this study is about the current VUCA world and its challenges and the sustainability goals practiced by today's organizations in context of developing high potential employees through upskilling and re-skilling. This aims to bring productivity in the organization, build better customer centric approaches and also help in branding and benchmarking.

2. Literature Survey

The exploration, identification, and analysis of pre-existing ideas and practices within the body of literature pertaining learning and development or upskilling and reskilling in different organizations serves as a reflection which helps the researcher to

identify areas that need more investigation. Numerous studies on how workers feel about their workplace have been carried out in various regions of the globe. However, there are a very small number of studies that focus on a particular industrial sector. Because the current investigation is focused on the employee development leading to high potential work force. Thus, an effort has been made to conduct a literature review. This was done in the hopes of gaining a deeper comprehension of the topic, which will then be summarized in the following pages.

According to a comment attributed to [4] following the advent of globalization, individuals are experiencing greater levels of stress as compared to prior years to remain updated. In addition to this, it causes an imbalance in the work, if upskilling and reskilling is not initiated. In late 2019, the World Economic Forum, issued an alert. Lack of skills was keeping CEOs awake at night. The only way to bridge the skills gap is through upskilling or reskilling programs.

As a result, the hiring experts workable and training journal shed light on the current state of reskilling and upskilling training.

The key findings include:

- 42% of companies stepped up their upskilling/reskilling efforts after the coronavirus outbreak.
- 42% of employees have pursued training on their own after the coronavirus outbreak.
- 68% of companies invest in reskilling/upskilling training to handle changes within the organization and another 65% to train employees on new technologies.

- 50% of employers target both hard and soft skills through their upskilling/reskilling initiative.
- Companies believe that employees are lacking communication/collaboration, leadership, and proactive thinking skills.
- 91% of companies and 81% of employees say upskilling/reskilling training has boosted productivity at work.
- 62% of employees hoped that reskilling and upskilling training would positively affect their job level and/or salary. However, only 33% and 35%, respectively say there's been a significant change in compensation and growth within the company.
- 74% of employees think their managers need reskilling and upskilling training.
- 66% of employees ranked the joy of learning new things and developing *new skills as the top upskilling*

Theoretical Frameworks:

The Theoretical framework that guides the study is the following:

Experiential: Knowledge is a process, as reality is constantly changing and one must adapt to those changes (Scott, 2014) critical thinking is paramount and all relate to the pattern of the whole (Scott, 2014) The importance of learning, upskilling and reskilling cannot be over emphasized in the industry 4.0 which started in 21st century. The need to experience the new learnings has become mandatory at the workplace.

Cognitive: Internal and external factors influence the learner about the way people think is considered (Ruiz-Martin and Bybee, 2022) the power of thinking, reflecting, decoding others, understanding the requirement of the client and developing a rational, critical thinking is always the impetus to empower the employee.

Constructivism: connecting learning with previous experience (Mahmud, 2013) The power to learn, unlearn and relearn has been the norm of the contemporary business world.

This piece of literature reveals the importance of upskilling and reskilling in the space of DIGITAL SKILLS

Digital skills are a key to a successful information society. A recent report by the European Commission (2021) suggests that digital skills are required in all types of jobs, including those that are not directly associated with digitization including farming, construction, and vocational skills. Digital skills are necessary to use software and enable people to use digital services, engage in online activities, consume information, and communicate online.

According to the latest Digital Economy and Society Index report (DESI, 2020), although there is an improvement year over year in terms of basic internet user skills and advanced information and communication technology (ICT) skills, there remains a shortage of ICT specialists. In fact, 64% of large enterprises and 56% of small and medium enterprises reported difficulties in filling vacancies for ICT specialists in 2018. Prior research suggests that the divide between digital skills adoption depends on demographic and socio-economic factors such as age, gender, education, income, and employment status (DiMaggio et al., 2004; Iordache et al., 2017). Digital skills are a prerequisite for the general public to be able to access government related information, participate in online banking, obtain telehealth treatments, consume information, and communicate online. Unfortunately, only 58% of citizens in the EU had basic digital skills in 2019 (DESI, 2020).

Despite the attention given to bridging the digital divide, there is a growing

concern that the digital divide may have been deepening because of unequal distribution of digital skills and access to digital media (van Dijk & van Deursen, 2014). The unequal access can be generation based. For example, senior citizens are on the lower spectrum of internet adoption, and significant efforts are required to provide basic digital skills to this demographic group (Blažič & Blažič, 2020). On the other side of the spectrum are young adopters of technology. Technology skills among youth are important for the future of work as the new economy requires reskilling with a focus on digital solutions, with an expected doubling of digital labor demand by 2030 (Bughin et al., 2017). Moreover, digital technologies increasingly provide access to communication, entertainment, creativity, citizenship, and civic participation (Donoso et al., 2020). Educators play a significant role in bringing technology skills to the lives of younger individuals via the use of e-learning tools and ICT (Leahy & Wilson, 2014).

Digital skills can be characterized as general and specialized. General skills are non-specialized, generic skills (Lintzeris & Karalis 2020). In the context of digital skills, they include basic functional digital skills necessary for social inclusion and participation in modern day-to-day life, such as access to the Internet, understanding social and digital media, and accessing services online (Broadband Commission for Sustainable Development, 2017). Specialized digital skills are a prerequisite for digital transformation and are necessary to create competitive business models and demonstrate profitability and sustainability. Specialized skills are particularly in high demand.

Defining of Terms:

Reskilling: Reskilling is the process of training employees in new skills or

competencies that are different from their current roles or job functions. It involves equipping individuals with the abilities required to perform entirely new tasks.

Example in Organizations:

1. **Retail to E-commerce:** A traditional retail company transitioning to an e-commerce model might reskill its store employees to work in the online order fulfilment and logistics department. These employees would need training in areas like order processing, inventory management, and online customer service.
2. **Manufacturing to Automation:** In manufacturing, as automation technologies advance, organizations may reskill their workforce to operate and maintain automated production systems. This entails learning how to use and troubleshoot complex machinery and robotics.

Upskilling: Upskilling focuses on enhancing the existing skill sets of employees. It involves providing training to help employees perform their current jobs more effectively or to prepare them for potential future advancements within their current roles.

Example in Organizations:

1. **Digital Marketing Skills:** In a marketing agency, employees may be upskilled in digital marketing techniques. This includes training on the latest digital advertising platforms, content marketing strategies, and data analytics to enhance their marketing efforts.
2. **Leadership and Management:** A company committed to internal promotions may upskill its high-potential employees by providing leadership and

management training. This prepares them for roles of greater responsibility within the organization.

Cross-skilling: Cross-skilling, also known as lateral skilling, is an additional dimension to consider in the context of workforce development. It refers to the process of equipping employees with skills that are not directly related to their current roles but can be valuable for the organization in various ways. Cross-skilling involves diversifying an individual's skill set to make them more versatile and adaptable in a broader range of tasks and responsibilities.

Example in Organizations:

1. Customer Service Representatives:

In a customer service department, employees can be cross-skilled in areas such as basic technical support or sales techniques. This enables them to handle a wider range of customer inquiries and issues, improving overall service quality.

2. Software Development Teams:

Software developers may be cross-skilled in different programming languages or aspects of the software development lifecycle, allowing them to contribute to a variety of projects within the organization.

Multiskilling: is horizontal in nature and pertains to having the ability to adapt to changing needs by de-skilling and re-skilling skills development (national centre for vocational educational research, 2013)

It refers to skills such as critical thinking, problem-solving which fosters lifelong learning (Steward et al, 2016)

In the evolving landscape of the future of work, reskilling and upskilling stand as indispensable strategies for organizations aiming to stay competitive and empower their workforce. While reskilling addresses the need to learn entirely new skills to adapt

to changing job roles or industries, upskilling hones existing skills to keep up with the latest developments within the current profession. These two approaches might differ in their focus, but they share a common goal: equipping employees with the abilities required to thrive in an ever-transforming job market.

The decision to employ either reskilling or upskilling, or perhaps a combination of both, hinges on an organization's unique circumstances, goals, and the ever-evolving landscape of its industry. Regardless of the path chosen, one thing is clear: investing in learning and development is a proactive response to the swiftly changing world of work.

3. Methodology of Proposed work

If there are not enough knowledgeable people to put other forces of production like capital, materials, structures, plant and equipment, etc. to use, then those factors will stay inactive and will not be able to provide the commodities and services that are needed by society. A growing number of people are coming to the conclusion that the synergy produced by a company's human resources is a critical factor in determining how successful the business will be [13].

The development of human resources can vary greatly from one person to the next, from one time period to another, from one nation to another, and even within the same nation depending on its value system, social institutions, degree of industrialization, and overall level of social and economic development.

TABLE-1: Based on Hypothetical assumptions for producing high potential employees

Employee-ID	Job Role	Skill Level for upskilling and reskilling	Competencies needed
1.	Marketing Manager	Intermediate	Persuasive Communication, Critical thinking
2.	HR Specialist	Beginner	Communication, Team work
3.	Data Analyst	Intermediate	Technical skills
4	Financial Analyst	intermediate	Accounting skills
5	Software Engineer	Advanced	Technical skills

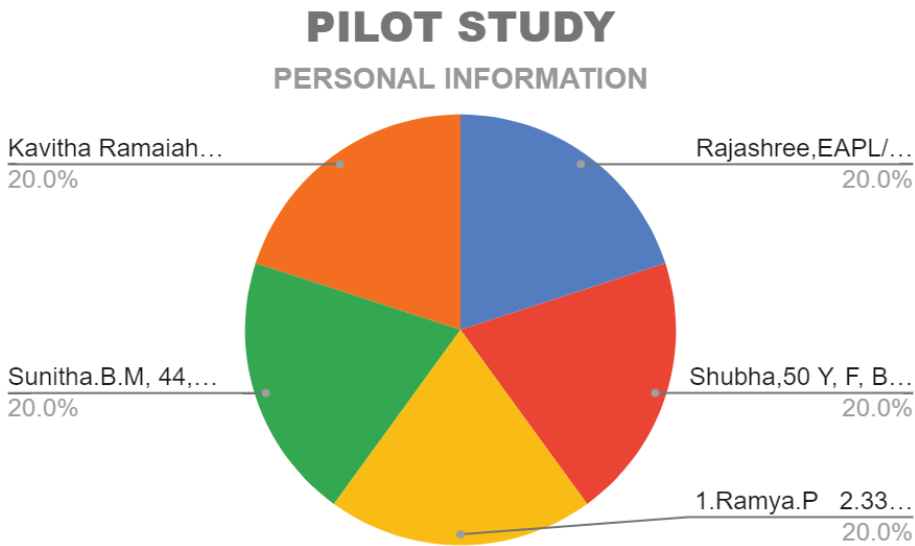
The qualitative approach is based on a narrative inquiry of the literature survey and also refers to a pilot study/data collected on primary research with reference to identification of high potential employees and their development through upskilling and reskilling. Thus, enabling sustainable goals of the organization.

The primary data was collected through a survey consisting of Recruiters, facilitators

and senior managers from a couple of manufacturing company and the questions were based on their career goals, training preferences, skills gaps, current skills and the need for upskilling and reskilling.

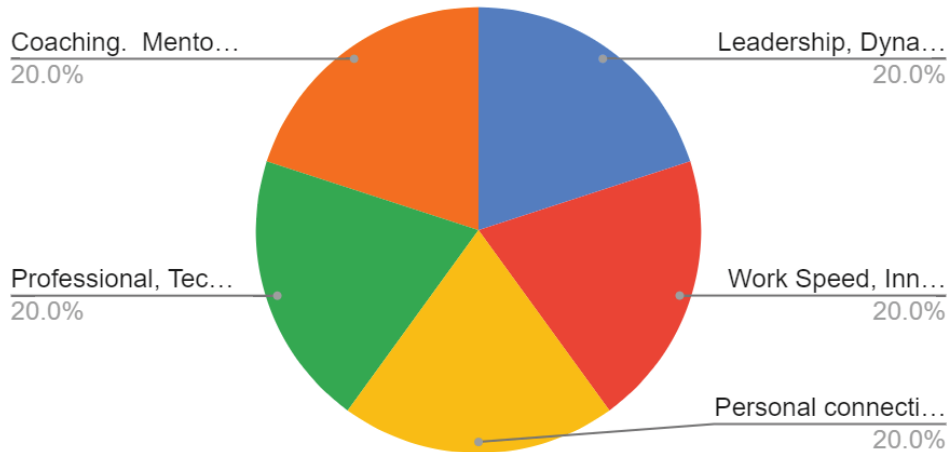
The graphical representation is shown below represents the interpretation of the survey.

TABLE: Pie chart representing the interpretation of survey conducted



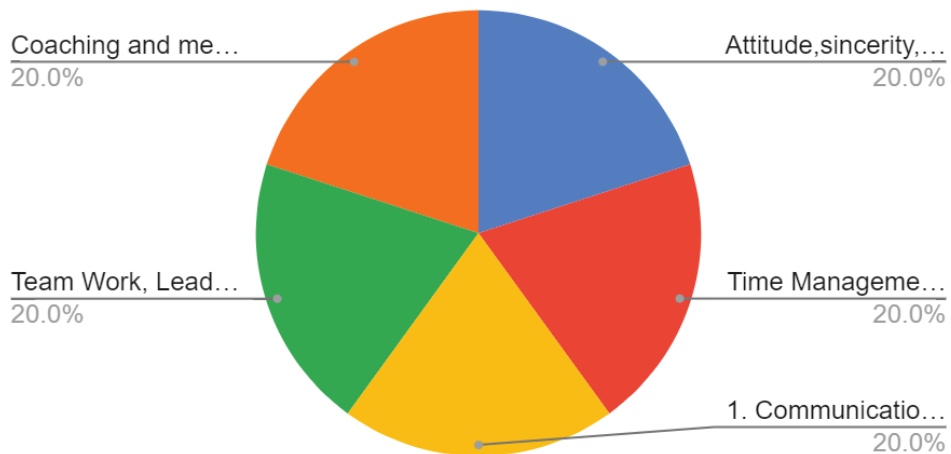
PILOT STUDY

SKILL GAPS

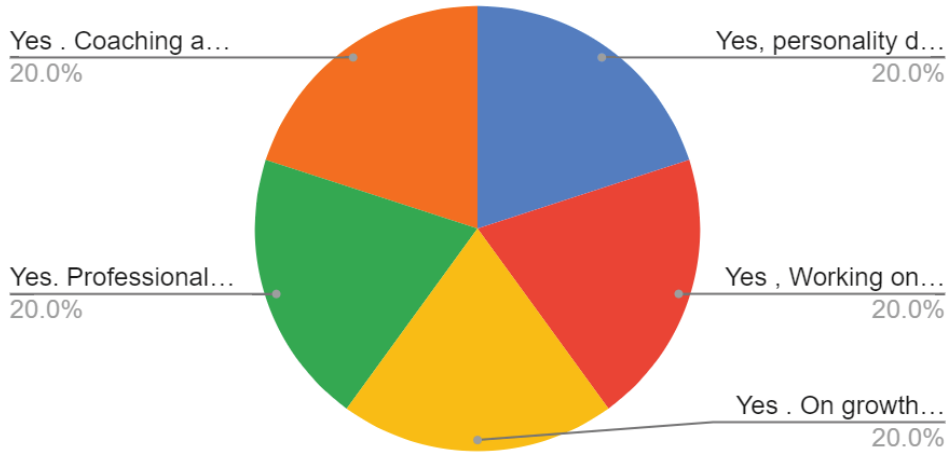


PILOT STUDY

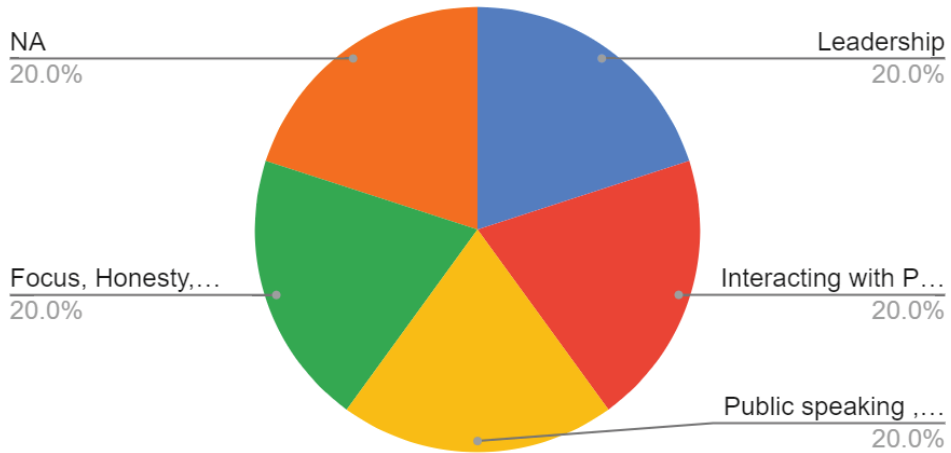
CURRENT SKILLS

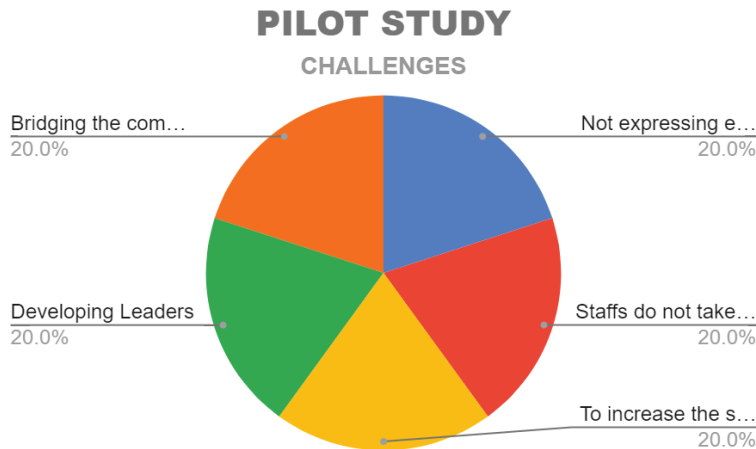


PILOT STUDY TRAINING PREFERENCE



PILOT STUDY CAREER GOAL





THE FOLLOWING QUESTIONS WERE USED IN THE QUESTIONNAIRE TO GATHER THESE INFORMATION:

CURRENT SKILLS

1. List any three of the technical skills
2. List any three of the SOFTSKILLS (E.g., Communication skills, problem solving skills, decision making skills)

CAREER GOALS

1. What are your short-term career goals (next 6-12 months)?
2. What are your midterm goals, if any ? (Any specific duration)
3. What skills do you need to achieve these goals? Mention at least three

SKILL GAP

1. What skills do you feel are relevant in the current context at the work place?
2. Which are the employability skills that has to be updated for your future roles in this industry?
3. Is there any other specific learning and development initiatives needed in the present times?

4. Is there any skill which you have not used for a period of six months?

TRAINING PREFERENCES

1. What kinds of training initiatives are preferred (coaching, mentoring, self-paced) please mention if any other?
2. Does the org have the Learning and development initiatives like reskilling and upskilling sessions?
3. What topics /areas interest you the most?

CURRENT CHALLENGES

1. What are the major challenges you face in the current role with respect to skill development?
2. Do you think AI has brought remarkable changes in the learning of new skills? Is it beneficial for you or not?
3. How do you keep the pace of learning new skills while different projects are assigned to you? (Self-learning, upskilling and reskilling initiatives or any other option)

ADDITIONAL COMMENTS

1. Is there anything else you would like to share about your skills, goals, or training needs

INFERENCES DRAWN:

The Inferences drawn is that there is a dearth for right coaching and training interventions in most of the organization and the need for upskilling and reskilling is significant to create sustainability goals in business and also in creating productive employees.

Limitation of the study

Limitations in studies are conditions that the researcher cannot control. In this study, few limitations can be addressed:

In the survey the participants we believe that they openly and honestly answer questions.

Sample is limited to this population of few manufacturing companies (convenient sampling)

Some biases must have unknowingly seeped into the writing.

However, there is a huge scope in this area for future research

Conclusion

The present study has made an attempt to examine the. The industry 4.0 and the need to develop high potentials employees through upskilling and reskilling in context of sustainability goals- Examining the Manufacturing sector-

The first part of the paper is the Objective followed by assumption and problem statement. The second part of the paper relates to the literature survey followed by the

theoretical framework pertaining to learning. And the third part of the paper relates to the methodology and the proposed work. Wherein the data analysis and the questions are shared. The fourth and final part is the limitation and the scope for future research being discussed

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