

REVIEW ARTICLE

Effective and efficient ways of executive development for corporates in fast-developing countries

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ABSTRACT

Executive development for companies in fast-developing countries has become important in sustaining economic growth. The existing executive development programs in India have been evaluated; in-house programs have been checked; and appropriate cost-effective programs have been identified. Further, this paper reviews the following eleven models of training the executives and workers of corporates: (1) Developing Corporate Universities/Virtual Universities/Corporate Business Schools/Learning Centers offer executive development courses. (2) Establishing training centers in India to train the managers, and mechanics to maintain machinery by transnational companies. (3) Establishing a long-term collaboration with Institutes of National Importance to train the executives and managers by establishing a skill development center. (4) Developing project-specific cooperation with the leading national institutes to train executives. (5) Establishing Regional Training Centers (RTCs) in all four regions of the country for training the managers. (6) Establishing an In-House Training Center (IHTC). (7) Utilizing long-term programs of engineering colleges/universities to train employees. (8) Online Training of the Executives and Employees, (9) Utilizing Private Training Organizations, (10) Scaffolding Self-directed Learning, and (11) Hybrid Programs. Success factors have also been listed for these models. These models can further be refined and utilized to elevate the executive development centers of corporations. The best methods of planning these models are also presented. Consulting institutes can also form consortiums of many engineering colleges to undertake projects in the country.

Key words: corporate university, industry-specific training centers, university collaboration, short-term cooperation, regional training centers, in-house training unit

INTRODUCTION

Drucker PF stated "An institution that cannot produce its managers will die. From an overall point of view,^[1] the ability of an institution to develop a manager is more important than its ability to manufacture goods effectively and efficiently". According to Flippo, executive development includes the process by which managers and executives acquire skills and competencies for future managerial tasks of increasing difficulty and scope.^[2,3]

Executive development is an ongoing process that helps managers gain company-specific knowledge, cognitive skills, and professional abilities to handle current situations more efficiently and effectively and mature enough to handle future challenges successfully.^[3] Executive development focuses on the programs, activities, and processes designed to improve executives' performance, thinking skills, and attitudes. It prepares them to meet the disruptive challenges (new technologies that replace existing technologies) of their current

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and future roles and sustain them in a dynamic and competitive environment.^[3] Most multinational companies (MNCs) focus on strong leadership, efforts to measure the program's success, and tracking the effectiveness of learning and development. They further considered including individual needs and added needed practical application' hands-on training to translate real-world experience and desired engagement.^[4-6]

Human resource development is a core for the advancement of the economy through technologies and people. Executive development is essential for corporates in fast-developing countries. In this 21st Century, the global competition for services and goods has increased. Disruptive technology is an innovation that significantly alters how consumers, industries, or businesses operate. Disruptive technology sweeps away the systems or habits it replaces since it is superior. In addition, many disruptive technologies have also increased in many industrial developments. People would like to buy high-quality goods and services at competitive prices. In addition, many modern equipment needs quality maintenance. The half-life of many products has become very short. Many global manufacturers started establishing their production units throughout the world due to World Trade Organization (WTO) policies. Many countries have globalized their economy. In every field, many Indian universities have established world-class programs in analysis-design analysis design, prototype development, improving, planning quality production processes, marketing, maintenance, scraping, and creating innovative products. Outstanding universities and national institutes have also successfully offered high-quality consultancy services to many International Development Agencies (IDAs), MNCs, and TNCs. They have also assisted many Indian companies in training executives and employees at a low cost. They have assisted them in planning human resource development, management, developing quality operating programs, energy saving programs, reducing accidents, and improving the environment in and around companies. Hence, Indian companies can plan various modes of training and development programs by using appropriate models. The aims of executive development are: (1) Sustain in a dynamic and competitive environment, (2) Ensure competent staff at all levels, (3) Develop leaders, and (4) Executive career growth.^[3] Prerequisites for executive development are: (1) the need for professional managers are felt, (2) The fast growth of cut-throat competition, (3) Growth of disruptive technologies, (4) Need for developing better human relations, (5) Executives need to adjust to changes in socioeconomic challenges, and (6) Need for a broader outlook of managers, (7) Should have at least 10

years of work experience.^[7,8]

LITERATURE SURVEY

Even though a wide range of technical universities, national institutes of technologies, and management institutions throughout the advanced countries offer executive development programs, they are insufficient to train around 200,000 to 300,000 employees of certain global companies. Hence, multinational corporations (MNCs) have pioneered the development of corporate universities exclusively to train their executives and employees based on their fast-changing needs. These corporate universities enjoy decentralized administration, autonomy, sufficient resources, and empowered faculty members to analyze the problems, develop needed programs, and offer through different modes. There are around 2000 corporate universities in the United States of America (USA).^[2,9,10] Some of the well-performing corporate universities are Apple (Apple University), McDonald's (Hamburger University) Disney, Google (Googleplex), Trump, Motorola, Zappos (Zappos Insights), *etc.* They are not designed to offer degree or postgraduate programs to formal students. Without these dedicated institutions, multinational corporations can't train their global executives and employees. Many MNCs have also established collaborations with universities for long-term research and training of their executives and employees. Some medium companies utilize well-established colleges to offer cooperative programs for their executives. Others sponsor their employees to undergo part-time courses offered by various institutions in their fields. Wu *et al.*^[11] have focused on the integration of science and education as a reform and practice of innovative talent cultivation models in the field of communication engineering. Kretschman focused on innovative engineering for a better future.^[12] Ke *et al.* have suggested an engineering capability cultivation of postgraduates with a university-enterprise joint project.^[13] Dutrenit focused on learning and knowledge management in corporate knowledge accumulation leads to strategic planning.^[14] In the Enterprise Learning Model (ELM), Learning explored the corporate university shift and the investment in custom learning.^[15] Figueiredo explored intensive services that small and medium enterprises need in the Brazilian mining industry.^[16] He suggested innovative capacity building and learning linkages in knowledge-intensive service. Phillips identified 12 success factors for corporate universities.^[17] Rahul identified 8 best practices for the corporate university 2.0.^[18] Rosenberg cautioned on the failures of corporate universities.^[19] Kunz listed corporate universities in the USA.^[20] Schultz explored the rise and demise of American corporate universities.^[21] Sawhney reimaged executive education, diversity, inclusion, and belonging.^[22] India's skill

development and entrepreneurship ministry focused on developing industry-specific skilled workers. An analysis of corporate university performance suggests that small and medium enterprises can develop appropriate learning centers economically. The Government of India in 1988 introduced program executives in 5 national institutes of importance and four technical teachers training. All these institutes developed effective and efficient executive development programs.^[23] Later Indian Institutes of Management organized executive development programs.^[24] Later based on the experience, two technical teachers training institutes have offered a large number of executive development programs.^[6]

OBJECTIVES/AIMS OF RESEARCH PAPER

The following three objectives were identified for this paper: (1) To evaluate the existing practices in training the corporate executives and employees of various organizations; (2) To identify the planning process of developing a training program through an in-house training unit of an organization; (3) To suggest an effective and efficient training the executives and employees by a corporate entity in a fast-developing nation.

RESEARCH METHODOLOGY

An action research approach has been selected. Collecting the available details of training and development from various organizations, planning processes by outstanding corporates throughout India to train the executives, employees, the organizational structure, faculty members of the training unit, method of developing the cost-effective training courses and ensuring needed higher-order cognitive skills, and attitudes of employees. The next step is assessing the local corporate needs for various cadres and choosing the best method of developing executives based on effective planning of learning centers (LC) /business schools that are efficient and have a proven track record.

Most of the engineering colleges and state technical universities focus on engineering and technology branches and may not have the expertise in human resources development (HRD). Many existing masters of social welfare (MSW) offered by the universities may not focus on engineering and technology advancements and their impact on the intricate cognitive skills of executives and employees. These demand an interdisciplinary approach combining engineering, technology, human resource development, industrial psychology, micro and macroeconomics, organizational change and development, strategic management, and human resources dynamics. Only a few universities have

established interdisciplinary postgraduate and doctoral programs on HRD. The Government of India has established four Technical Teachers Training Institutes (TTTIs) in Bhopal, Chandigarh, Chennai, and Kolkata to develop interdisciplinary research programs curriculum development, and instructional package production. Initially, they are mandated to develop polytechnic colleges to train the faculty, evaluate existing curricula and develop new curricula, prepare needed instructional packages, and continuously focus on industrial needs.^[19,25] The faculty members have also been trained in various global institutes in needed courses in curriculum development, instructional package preparation, educational management, institutional development, interdisciplinary research, and establishing new programs and institutes under various IDAs. These four institutes have organized certificates, diplomas, degrees, and interdisciplinary postgraduate and doctoral programs. They established Curriculum Development Centers (CDCs), Educational Management Departments (EMD), Engineering Education Departments (EED), Centers for Rural Development (CRD), Educational Media Centers (EMCs), Multimedia Learning Packages (MMLP) production units, and Computer Centers besides departments in Civil, Electrical, Electronics, and Mechanical Engineering. Their expertise has been utilized by various state engineering departments, and industries to train their employees and executives. They organized regional training centers (RTC) for the Cement Industry. Their services are utilized by United Nations Educational, Science and Cultural Science's Asia-Pacific Center for Educational Innovations for Development (UNESCO APEID)- Bangkok, Thailand, the Asian Development Bank (ADB), the Danish International Development Agency (DANIDA), the German International Development Agency (GTZ), the Swedish International Development Agency (SIDA), United States International Development Agency (USAID), United Nations Development Program (UNDP), and the World Bank. These institutes offered diverse global faculty development programs under various funding agencies. They effectively and efficiently filled the gap in HRD. The outstanding universities in other developing countries can simulate such units and develop their faculty members. They form a well-designed foundation for HRD.^[22]

PROCESS OF SELECTION OF THE EXECUTIVE TRAINING AND DEVELOPMENT

Thirteen methods are identified in this paper to train the executives of corporations in developing countries. These methods are synthesized from global practices. Each method has its advantages and problems. Some are suitable for multinational companies and some are

micro, small, and medium enterprises (MSMEs). The management has to analyze the needs and choose the appropriate training method carefully. The unique challenge is an assessment of industrial needs, and drawbacks in the current industrial practices, creating active linkages with training institutes and MSMEs. Most of the institutes didn't visualize their strengths in problem-solving and the local companies also ignored the strengths of the institutes. No engineering college focused on the training needs analysis, developing programs centered around the stated technology and human resources.^[26,27] Only a few institutes organized courses on developing industry-specific programs. Based on the new research and developments on change models and strategies, a few institutes developed their consultancy projects to suit the needs of MSMEs.

Corporate university (CU)/virtual universities (VU)/corporate business schools (CBS)/LC ^[15,21,28,29]

A CU is an enterprise function center or unit. Its program is closely aligned with the business strategies of the enterprise and provides leadership in the support and learning process through continuous, strategic, and aligned learning to provide a long-term positive impact on the bottom line. A CU should assist the enterprise in achieving its mission. They are designed with a sufficient number of well-accomplished faculty members. They are expected to offer needed courses from skill levels to leadership levels so that the employees can move from entry-level jobs to top managers-level jobs. They employ executives from well-performing companies and universities. They offer theoretical and hands-on training based on business techniques and philosophies utilized by many of the largest corporations in the world. They are proactive, and strategic, with a goal of company advantage, integrated with business strategy, and offer learning as an ongoing process. Traditional training programs are reactive, and tactical, with a goal of individual development, siloed, and treat training as an event.

These were created to align the training arm of the company with its overall vision and strategy and they have to keep up with the demands of the 21st-century workplace and its executives. They have to create a culture of learning which goes beyond a culture of learning. The role of the learning and development team is to develop an efficient workforce that impacts the bottom line. The learning and development professionals have to take on challenges successfully and offer a seamless learning experience. The CU/Virtual University (VU)/CBS/LC has to offer a learning experience design to allow learners to search for information which requires a smart platform and bite-sized and searchable content. They have to enunciate a

vision for the training and development program. They should center around the kind of enterprise, making employees most valuable, and bringing tangible change to them. They should create a structure, determine the scope, and identify stakeholders and their learning needs. Further, they have to enlist cutting human resource technology. They have to select the most fitting learning management system. They have to offer online and offline courses. They may have to offer courses through multiple locations/ sites and integrate them *via* a cloud-based model. Also, their course focuses on mobiles, tablets, and wearables. Nevertheless, they have to assess progress and develop consistently.

Establishing a CU

CUs have to establish a learning culture and the process of developing a CU is ever ongoing. The initial design was based on the current needs of the business. As disruptive technology impacts the products, the design and manufacturing process would be improved. Hence, additional learning packages have to be developed. The needed competencies are to be assessed and required development programs are to be prepared. Also, check the adequacy of experts in the CU. You can invite additional experts from various universities. Since the cost of establishing is very large, TNC can achieve more returns in the long run. Corporate universities should have a visible and high-level top executive who will focus on achieving their mission. He/she should provide a strategy, and bring all executives. Corporations should establish proper governance and align with corporate needs. It should address performance improvement, pursue a variety of learning-transfer strategies, develop a partnership with key executives, and manage the CU as a business. Further, it should demonstrate its value, and stay relevant to employees by involving specialists in the learning process. The term "CU" is forbidden in many developing countries. The following are proposed six-step processes in planning corporate universities.

Analyze the needs of the executives of the enterprise based on the core purpose and scope of the CU.^[17] Establish the foundation of the CU, and analyze the needs of the top executives. Three models have been identified: (1) Promoting the vision and mission of the enterprise. (2) Managing the planned change. It should eliminate obsolete behaviors and introduce new insights and behaviors. It could be based on Kurt Lewin's model of change management. Unfreeze outmoded embedded behaviors, move to the new behaviors, and then refreeze the new planned behaviors in the enterprise. (3) Be an active participant in moving the strategic direction. This will help disparate groups of employees and executives to develop the enterprise from a strategic standpoint. The CU will empower employees with cognitive, and motor skills, and attitudes to lead the enterprise into the future.

Prepare a set of draft programs in consultation with the learning officer and project heads.^[25,30] Develop needed draft programs in consultation with the learning officer and project heads of the corporation. Conduct in-depth needs analyses. Prepare learning objectives based on the key needs. Verify learning outcomes. Prepare learning packages with adequate videos and multimedia. Prepare online programs also. If needed plan face-to-face programs that can be administered in various locations where the production units are located. If needed prepare translations to meet the needs of employees who are located in various countries.

Conduct a formative analysis of the curriculum and learning materials. These are to be done through a set of executives and target employees. Identify the changes needed. The curriculum has to focus on strategy and values, leadership, job-specific competencies, functional and technical skills, and motor skills based on the job specification.

Improve the learning packages. They should be based on the agreed changes. Verify the improvements. Get feedback from one or two members who conducted the formative evaluation.

Pilot Test and Implement. First test the curriculum and learning packages by piloting in one training program and collecting feedback. If there is any need to modify the learning package, incorporate the improvements. Mass produces the materials based on the requirements.

Evaluate the Outcome. Get feedback from the managers on the performance of the employees who underwent the training program. Note if there is any shortage of skills due to problems in the instructional delivery.

Success Factors for Corporate Universities: (1) Bringing fresh life to the old training and development department; (2) Bringing change and introducing new strategies and initiatives; (3) Sustain a successful and effective culture; (4) Capable of offering needed programs to overseas units; (5) Capable of offering massive open online courses (MOOCs) to all overseas units in different languages.

Desired strategies to improve the performance of the Corporate University.^[15,25,28,30] (1) Select the best faculty members with proven competence and develop a curriculum based on in-depth needs analyses; (2) Introduce online courses; (3) Introduce shared governance.

LONG-TERM COLLABORATIONS^[22,31-34]

Long-term collaborations with various well-performing

universities will provide continuous assistance in cognitive development, exposure to advanced analytic procedures, and advances in material sciences, testing, and manufacturing.

Long-term collaboration with institutes of national importance and other private universities^[10,28,33,36,37]

Many professional universities have offered advanced industry-specific programs based on in-depth analysis of the growing needs of corporations. They have significant expertise in planning, developing, and implementing advanced programs. They have published industry-relevant research papers in many international conferences and journals. Many departments have a significant number of patents based on their research works in cutting-edge technologies. Many of the well-accomplished faculty members have also rendered many advanced services to solve many complex problems of corporations. You can select a range of institutions for entrusting appropriate development programs based on their strength. Many institutions have also uploaded comprehensive faculty profiles on their websites. They have established long-term collaborations with many leading companies for analysis, design, develop new products, testing them, improving them, and assisting the companies in quality manufacturing, and maintenance. They also upload all their achievements to their websites. Corporate bodies can collaborate with these institutes of national importance, national institutes of technology (NIT), and state technical universities. Letters of invitation can be sent to them for needed consultancy services. After receiving project proposals, the senior managers can negotiate for product development, assist in manufacturing, improve productivity, cost reduction, *etc.* Based on the success, many new collaborations can be established. Companies can request the profile of significant lead faculty members, modern laboratory facilities, research papers in the field of industrial importance, patents registered, and services rendered by various companies.

Success Factors: Introducing continuous performance improvement in the programs, getting feedback from the faculty members, executives, and participants, reviewing the curriculum, instructional design process, and outcomes, introducing online courses, employing adjunct faculty from the industry wherever needed, and planning dual courses with the collaboration of various departments give more successes.^[38,39]

The cooperative programs with various Universities/Autonomous colleges^[25,31,36,40]

The corporates can plan industry-specific long-term graduate, and postgraduate programs and offer assistantships for the graduate students. The students can be

offered dissertation topics from the company. Upon completion of the program, the graduates can be recruited who will be almost industry-ready with significant cognitive skills and aptitudes. Many companies have successfully cooperated with institutions in many developing countries.

Success factors: Introducing industry-specific electives, conducting seminars on upcoming changes providing access to design, product development, testing, and manufacturing units constitute success factors.

Formation of consortia among the engineering institutes in the state or region^[41,42]

A lead institute can select several well-equipped engineering colleges and they can jointly quote and undertake consultancy projects. The faculty can learn the art of undertaking many intricate projects. In the long run, the primary institutes can mentor young faculty members and they can use the resources very well.

Success Factors: Availability of qualified faculty members, support from the management, availability of modern resources, the readiness of the faculty members, and substantial return on investments constitute success factors.

Establishing industry-specific postgraduate programs^[41,43,44]

The corporates can jointly plan and offer needed postgraduate programs in design, product development, testing, and refining. The young employees can be offered such programs so that in the long term there will be well-qualified junior designers, prototype developers, and testers. The industry can offer consulting fees to institutions. Engineering Construction Corporation (ECC) jointly developed a Master's Degree in Construction Management and implemented it through the Indian Institute of Technology (IIT)-Madras, NIT, Tiruchirappalli Tamil Nadu, and Surathkal- Karnataka. Bharath Heavy Electricals in Tiruchirappalli jointly developed a master's degree in Thermal Engineering with the NIT Tiruchirappalli and implemented it. Hindustan Aeronautics jointly developed a postgraduate program in Aeronautics with the IIT Madras and implemented it. The Public Works Department of Tamil Nadu sent their engineers to the College of Engineering, Guindy, Chennai to undergo a master's degree in Foundation Engineering, Structural Engineering, and Water Resources.

Success Factors: Providing assistantships to graduate students, providing case studies, offering internships, supporting industry-sponsored dissertation works, and jointly supervising, establishing an industry-supported chairperson, and permitting the experts from the

company to offer selected topics constitute success factors.

Establishing RTCs in the state/region/nation^[27,30,38,45]

Many companies that are located in various parts of the country can jointly establish RTCs to train their executives and employees. They can prepare national programs and offer them in various RTCs so that production costs will be minimal. Expert faculty members can also be shared by various RTCs. The Ministry of Industry can also establish RTCs under Industrial Development Corporations (IDC) like the World Bank, Asian Development Bank, African Development Bank, etc. Further RTCs charge fees to the companies for training the employees.

Success Factors: Reviewing the impact of the RTC courses, selecting adjunct faculty from the companies, and Introducing factory visits constitute success factors.

Utilizing long-term programs of the professional Universities/Autonomous colleges^[36,43]

Many well-established universities and autonomous colleges have developed many industry-relevant courses and programs. They have up-to-date resources, laboratories, workshops, and well-accomplished faculty members. The programs have also been accredited. They also offer part-time courses. It is better to evaluate the course objectives, courses, electives, and assessment methods. The companies can sponsor their newly recruited and junior employees to these courses. Most of the graduates are industry-ready.

Success Factors: The least expenditure for the companies, the employees are well-trained based on the latest industry-relevant curriculum, good exposure to case studies and global practices, the employees can take up dissertation work which will be guided by the well-accomplished faculty members, and the company offers in-house courses for other employees constitute success factors.

PLANNING PROCESS OF DEVELOPING A TRAINING PROGRAM THROUGH AN IN-HOUSE TRAINING UNIT

In-house training centers will provide needed cost-effective employee development programs. They are very efficient since they have continuous linkage with all departments.

In-house training center (IHTC)^[36]

It is more beneficial to establish In-House Executive Development Centers so that the employees can be trained based on their needs. These centers can get

assistance from experts from universities and other companies. The vendors can also be trained. Most automobile companies will train the mechanics of service providers.

Success Factors: Introduce program development committees from the expert members of the universities, offering case studies, introducing problem-solving through quality circles, and Introducing project works and seminars constitute success factors.

Utilizing online executive development programs

Many organizations offer online short-term courses and postgraduate programs. Many flexible courses are conducted exclusively for employed persons. They also introduced projects, tests, assignments, and quiz programs. The employees can be encouraged to undergo desired courses and programs.

Success Factors: A wide variety of courses offered by the outstanding faculty teams, highly relevant to meet global standards, flexible, and highly suited to meet the challenges of disruptive technologies and economics constitute success factors.

Utilizing private training organizations^[20]

Many Private Training Organizations offer training programs in most countries. Many of them offer only in selected fields and they have reputations. They announce a series of programs, dates, venues, and follow-up services. Companies can select required training programs that match the employees' requirements.

Success Factors: Suitable training programs, mostly short duration, fairly reputed for planning and conducting specific titles and economical constitute success factors.

A case study on cooperative program in auto ancillary companies

Many auto ancillary companies developed joint programs with the National Institute of Technical Teachers Training and Research (NITTTR), Chennai. The company utilized their executives to offer their detailed planning to improve the quality, and cost reduction using the Kaizen Method, and the NITTTR trained them in quality circle and interpersonal relations.

Success Factors: Well-planned training program for improving productivity, cost reduction, and quality improvement, excellent support from the NITTTR Chennai on improving interpersonal relations, organizing quality circles, and safe work practices, win-win solution, research projects from the companies were undertaken by the postgraduate students of NITTTR Chennai and NITTTR Chennai replicated this program with other companies constituted success factors.

Scaffolding self-directed learning of the employees

Many employees' plans need advanced design and analytical skills that are offered through online courses by universities and international organizations. They also register for seminars, workshops, conferences, and online courses. Many in design departments prefer to gain new analytical skills, design methods, and product developments prefer online courses during their leisure time. The companies can provide incentives to them. Many companies can assess such employees' skills and promote them internally. If such measures are undertaken, they can easily get outstanding cognitive-based designers. Many international universities also offer online courses in advanced areas. Companies can prescribe their needs and list external institutions that can offer needed training and development programs. The companies can reimburse the expenditure to their employees.

Success Factors: Most intelligent employees in product analyses, design, prototype development, and testing can be developed by this method, employees improve their morale and achievement motivation, improve critical thinking abilities, the employees fit for in-house research projects, These best employees can be retained, ensuing Human capital constitute success factors.

Hybrid programs

Many universities offer hybrid courses by combining online and face-to-face courses. These courses are very cost effective and also economical. Many in-house courses can be modeled by using online courses and followed by face-to-face courses. These can be a very innovative way of developing the executives.

Success factors: Well-planned In-house courses by combining online courses, overcoming the shortage of experts, and organizing very economical courses constitute success factors.

Development of training programs for the executives and employees of an enterprise^[18,36,41]

Consider an enterprise with various departments with trained senior executives, managers, engineers, and technical support staff. The whole activities comprise strategic planning for product development, generating funds for capital goods and equipment, working capital, manufacturing, and marketing. It is followed by maintenance. In a simple model, it can be shown to consist of analysis-Design-Prototype-Development-Testing-Improving-Planning-Production-Maintenance-Scrapping-Planning an Innovative Product based on the advanced manufacturing process. There is a need for a human resource development department in every

Table 1: Roles of various offices in developing a training program

Department personnel	Head-chief executive	Manager	Deputy manager	Assistant Manager	Junior maager	Foreman	Skilled worker	Any other employee
Major Duties								
Tasks to be performed								
Performance objectives								
Learning outcome								
Curriculum								
Learning package								
Duration of the training								
Training method								
Participation strategies								
Higher-order cognitive skills								
Communication skills								
Technical performing skills								
Interpersonal skills								
Leadership skills								
Performance assessment skills								
High productivity								
Total quality management								
Energy management								
Value analysis								
Innovation								
Production planning								
High productivity planning								
Interpersonal relationships								
Accident elimination								
Any other needed skills								

company. The officials of this department have to prepare job analysis, job specification, duties, task analysis, and develop performance objectives. The training curriculum will have to be developed based on the performance objectives. Later the subject matter specialists have to develop instructional packages (Table 1).

The details could be filled in by the employees and verified by the supervisor/managers. Every department will have detailed job descriptions, job specifications, tasks to be performed, *etc.* Once the performance objectives are developed, the training curriculum can be prepared. This has to be validated by the department for developing instructional packages.

EFFECTIVE AND EFFICIENT TRAINING THE EXECUTIVES AND EMPLOYEES BY A CORPORATE ENTITY IN A FAST-DEVELOPING NATION

First, determine the training needs of the executives and employees based on the current development of the

organization, introducing new units, expanding capacity, modernizing production process, and maintenance. Prepare a draft curriculum and include real-world skills, a process of engagement, and a method of getting feedback. Validate the curriculum, develop a learning package, and introduce the objectives of the program and desired learning outcomes. Conduct the program and invite participation. After completing the program, get feedback. Plan subsequent programs based on the business and human resources needs. The senior managers have to choose appropriate training and development methods in consultation with the corporate authorities.

Companies can choose the desired training agency depending on its requirements, quality of training, funds, number of trainees, technology involved, convenience, and follow-up activities desired. In the case of multinational companies, they can choose the reputed training organizations available in the host country. After completion of the training programs, feedback on the quality, utility, changes achieved, *etc.* are to be collected for future actions (Table 2).

Table 2: Feedback in quality, utility, and changes achieved

Executive /employee training	CU	Long-term collaboration with a university.	Cooperative program.	Developing Industry-specific Long-term program(LTP)	RTC	In house	professional university	Virtual/ online	SDL	Private training organization	Hybrid
1											
2											
3											
4											
5											
6											
7											
8											
9											

CU, corporate universities; RTC, regional training centers; SDL, Staff Development Linkage.

DISCUSSION

Many global corporations have established Corporate Universities to train their executives and employees. It is similar to outstanding universities with adequate resources and outstanding faculty members. They also depend on adjunct faculty members. When the industry faces disruptive technologies, it needs to involve many multidisciplinary experts to develop new programs. The expenditure involved is very large and MNCs can develop and maintain them. The process of selecting resource institutes to develop the executives depends on the expertise of the trainers, the availability of adequate resources, slots available to implement the programs, and effective collaboration between training institutes and clients. Cooperative programs with well-established universities will be another viable alternative. Based on the technological needs, the company can prepare contracts with resource institutions based on their successful implementation of similar programs. One can choose a set of the best institutions that are ready to offer the required training programs. Self-directed learning will be of great use and many software companies reimburse the fees for undergoing online programs offered by universities.

CONCLUSIONS

Even though there are many well-designed training methods for corporate executives and other employees, choosing the appropriate method depends on the careful assessment of the needs, planning desired training methods, implementing, assessing the outcome, and following is essential. Establishing a corporate university will be very costly but multinational companies can invest, and develop well-planned CUs. In the case of developing analysts, designers, and prototype developers one can plan long-term collaborations with outstanding universities. It is better to recruit graduates who

completed cooperative programs. If many companies joined together and developed industry-specific long-term programs at the postgraduate level. This method will ensure suitable industry-ready graduates. RTCs will be very economical for short-term courses. In-house employee development centers are mini corporate universities and they can develop short-term courses. If well-developed professional universities offer industry-relevant programs, employees can be deputed to earn master's degrees which is very economical. Reputed private training organizations can also be preferred in some cases. Virtual/online courses offered by national universities or professional associations can be utilized profitably. High-performing employees in design-related areas work may plan self-directed learning strategies. Hybrid programs are to be carefully designed. Companies have to conduct the impact of the trained executives and employees and support the best programs. Many outstanding engineering universities in fast-developing countries can establish human resource development institutes and offer needed executive training programs for various corporations. This paper utilized a landscape survey model that is based on the current practices of various Indian organizations, companies, MNCs, and extension units/continuing education centers of national training institutes. This model brings close cooperation and linkage between the knowledge producer and the user. Both get benefits and solutions without long delay. The engineering courses can be updated to meet the continuous growth of companies.

Limitations of this study

This study is based on the quality approach. However, in this 21st century, fifty many innovative methods are emerging and getting standardized. Hence, companies have to watch the radical changes in executive training and development.

Suggestions for future research

Development of online/VU, hybrid programs, and encouraging self-directed learning require in-depth research considering the rapid growth of disruptive technologies. Hence, planning new training and its implementation will require more in-depth research. Another promising method will be the formation of consortia among the engineering institutions in the region and they can jointly undertake the training and development programs.

DECLARATION

Author contributions

Vedhathiri T: Conceptualization, Data curation, Writing—Original draft, Writing—Review and Editing.

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The authors declare no competing interest.

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REFERENCES

- Drucker PF. The Frontiers of Management. *Butterworth-Heinemann, An Imprint of Elsevier, Inc; 1994.*
- Geek tonight. Human Resource Management. Accessed June 07, 2024. <https://geektonight.com/category/human-resources-management/>
- Geek tonight. What is Executive Development? Definition, Objectives, Importance, Methods, Process, Factors Influencing. Geek tonight. Accessed June 07, 2024. <https://www.geektonight.com/executive-development/#what-is-executive-development>
- Goldstein N. 6 Examples of Incredible Leadership Development Programs (+How you can develop your leaders). Together, an absorbing company. Accessed June 09, 2024. <https://togetherplatform.com/blog/examples-of-leadership-development-programs>
- Hobday M. East Asian Latecomer Firma: Learning the Technology of Electronics. *World Dev.* 1995;23(7):1171-1193.
- Technical Teacher Training Institute, Chennai. Implementation of Executive Development Programs for the Cement Industry, Auto Ancillary Companies, and Cooperative Sugar Mills, <https://www.nitttrc.ac.in>
- Harvard Business School. Executive Education Programs. Harvard Business School. Accessed June 07, 2024. <https://www.exed.hbs.edu>
- e-Amrit. Skill Centre. e-Amrit. Accessed June 08, 2024. <https://e-amrit.niti.gov.in/skill-center>
- BasuMallick C. 5 Steps to Succeeding with Corporate Universities. Spiceworks website. Accessed June 09, 2024. <https://spiceworks.com/hr/learning-development/articles/5-steps-to-succeeding-with-corporate-universities>
- Gann D, Montresor F, Eisenberg J. 3 ways to nurture collaboration between universities and industry. World Economic Forum. Accessed June 08, 2024. <https://www.weforum.org/stories/2018/11/3-ways-to-nurture-collaboration-between-universities-and-industry/#:~:text=3%20ways%20to%20nurture%20collaboration%20between%20universities%20and,%20University%20tech%20transfer%20offices%20must%20prioritize%20flexibility>
- Wu G, Zhang QF. Integration of science and education: Reform and practice of innovative talent cultivation model in the field of communication engineering. *Eng Edu Rev.* 2024;2(2):72-76. [10.54844/eer.2024.0619]
- Kretschmean J. Innovative Engineering Education for a Better Future. Engineering Education for a Better Future. *Eng Educ Rev.* 2024;2(2):101-108.
- Ke WD, Wei Y, Hu CZ, et al. Study on Engineering Capability Cultivation of Postgraduate with University-Enterprise Joint Project. *Eng Educ Rev.* 2024;2(2):92-100.
- Dutrenit G. *Learning and Knowledge Management in the Firm: From Knowledge Accumulation to Strategic Capabilities.* Edward Elgar Publishing Ltd; 2000.
- ELM Learning. The Corporate University Shift: Why Great Companies Invest in Custom Learning. Accessed May 23, 2023. <https://elmllearning.com/blog/the-corporate-university-shift>
- Figueiredo PN, Piana J. Innovative Capability Building and Learning Linkages in Knowledge-Intensive Service SMEs in Brazil's Mining Industry. *Resour Policy.* 2018;58:21-33.
- Phillips JJ. *Twelve Success Factors for Corporate Universities.* ROI Institute, Inc; 2004
- Rahul S. 6 Best Practices for the Corporate University 2.0. Training Industry website. Assessed July 10, 2023. <https://trainingindustry.com/articles/learning-technologies/6-best-practices-for-the-corporate-university-2.0>
- Rosenberg M. Marc My Words: Why Many Corporate Universities Fail, and Some Don't. Learning guide website. Assessed February 20, 2023. <https://www.learningguild.com/articles/2184/marc-my-words-why-many-corporate-universities-fail-and-some-dont/#:~:text=Marc%20My%20Words%3A%20Why%20Many%20Corporate%20Universities%20Fail%2C,7%207.%20Dismissing%20learning%20in%20the%20workflow%20>
- Kunz M. List of Corporate Universities. The classroom website. Assessed February 19, 2023. <https://www.theclassroom.com/list-of-corporate-universities-12273636.html>
- Schultz D. The Rise and Coming Demise of the Corporate University. American Association of University Professors. Accessed June 07, 2024. <https://aasu.org/article/rise-and-coming-demise-corporate-university#>
- Sawhney M. ReimagReimagin Executive Education. Accessed May 1, 2023. <https://hbsp.harvard.edu/inspiring-minds/reimagining-executive-education>
- The Ministry of Human Resource Development, Department of Education, New Delhi, Government of India. Establishment of Continuing Education Programs in five Indian Institute of Technologies and Four Technical Teachers Training Institutes based on the National Policy on Education-1986 <https://archive.org/details/dli.ernet.15448>
- Indian Institute of Management. Executive Development Programs. Indian Institute of Management, Bangalore, IIMB website. Accessed March 15, 2022
- Musielak L, Newhouse M. *Corporate Universities: Strategic Organizational Learning.* Inspirant Group, Inc; 2019.
- Ministry of Skill Development and Entrepreneurship. Ministry of Skill Development and Entrepreneurship. Government of India. Accessed May 21, 2023. <https://www.msde.gov.in/>
- Conn S. Nothing Succeeds like Failure: The Sad History of American Business Schools. *J Am Hist.* 2023;109(4):907-908.
- Sessions D. How Business Schools Fail Up. The Rise of the STEM-obsessed, corporate-partnered University. Accessed April 05, 2024. <https://newrepublic.com/article/156378/rise-business-schools-corporate-university-crisis-higher-education>

29. Schrum E. *The Instrumental University: Education in Service of the National Agenda After World War II*. Cornell University Press; 2019.
30. Meister JC. Ten steps to creating a corporate university. *Train Dev*. 1998;52:38-43.
31. Indeed Editorial Team. 7 Ways to Collaborate with a Team Effectively (Plus Tips). Accessed March 4, 2024. <https://www.indeed.com/career-advice/career-development/collaborate-with-the-team#:~:text=7%20ways%20to%20collaborate%20with%20the%20team%201,...%207%207.%20Analyze%20your%20company%20culture%20>
32. Nagoya University. Academics-Industrial Cooperation. Nagoya University. Accessed June 2, 2023. <https://en.nagoya-u.ac.jp/research/collab/index.html>
33. Williams P, Allon G. Executive Development Program. The Wharton University of Pennsylvania. Accessed February 7, 20. <https://www.online-execad.wharton.upenn.edu>
34. Team Asana. Collaboration in the workplace: 11 ways to boost your team's performance. Accessed March 23, 2023. <https://asana.com/resources/collaboration-in-the-workplace>
35. Harvard Business School. Executive Leadership Training. Harvard Business School. Accessed June 07, 2024., <https://www.exed.hbs.edu>
36. Kluczny S. The 9 Elements that Make Top Employee Training Programs So Successful. BIZ LIBRARY. Accessed April 21, 2023. <https://www.bizlibrary.com/blog/training-programs/employee-training-9-characteristics-of-top-programs/#:~:text=The%209%20Elements%20that%20Make%20Top%20Employee%20Training,8.%20Consistently%20Marketing%20the%20Training%20Program%20...%20%E6%9B%B4%E5%A4%9A%E9%A1%B9%E7%9B%AE>
37. Rybnicek R, Konigsgruber R. What makes industry-university collaboration succeed? A systematic review of the literature. *J Bus Econ*. 2019;89:221-250.
38. Vedhathiri T. Development of Diverse Global Educational Leaders through Learning Organization Concepts of Faculty Engagement. *Procedia Comput Sci*. 2020;172:207-214.
39. Vedhathiri T. In-House Leadership Development Programs for High-Potential and High-Performing Engineering Faculty. *Asia Pac J Educ Manage Res*. 2022;7(2):17-32.
40. Indeed Editorial Team. Collaboration Vs. Cooperation (With Mian Differences). Indeed website. Accessed May 23, 2023. <https://indeed.com/career-development/collaboration-Vs-cooperation>
41. Subba Reddy B. HAL-IISc Skill Development Centre. Indian Institute of Science. Accessed May 24, 2023. <https://iisc.ac.in/skill-development-centre/>
42. Vedhathiri T. Collaborative Dissertation based on the Human Resources needs of MSMEs to Improve their Competitiveness and Overcome the Disruption. *Procedia Comput Sci*. 2020;172:551-558.
43. TOYOTA Motor Corporation. Toyota's Top Training Program. Technical Training Programs for Toyota Personnel Around the Globe. Accessed December 23, 2023. <https://global.toyota/en/detail/7627452>
44. Corporate Training Materials. Train the Trainer. Accessed June 22, 2023. https://corporatetrainingmaterials.com/products/train-the-trainer?_pos=1&_sid=4c8ea4a34&_ss=r&variant=30345068085353
45. Regional Training Centre, Delhi. Indian Audit & Accounts Department. Accessed June 02, 2024. <https://164.100.22849.rti-website.rtc-delhi/rtc.php>