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Methodology for installing the training engineering approach for skills development

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Abstract :

The purpose of this communication is to propose a training engineering approach that can provide answers to the concerns of company managers in the area of skills development. It is based on qualitative research, based on case studies. We start from the strong assumption that if training is put to the service of the satisfaction of the needs of competences, it contributes strongly to the development of competences.

Finally, research shows that the problem of competence in enterprises must be dealt with upstream and requires skills in the development of training standards and engineering

Keywords : HRM; Engineering Training; skill; referential; Training plan

1. INTRODUCTION

The efficiency of companies and their competitiveness depends on highly motivated and successful employees in learning organizations and collaborative human resource management methods.

In Algeria, the skills crisis manifested by a growing shortage of skills, challenges the models of management of human resources of companies. Indeed, the changes in the production system are accelerating the evolution of occupations and jobs, which are now subject to the challenge of competence.

These changes significantly alter the characteristics of jobs and skills with a higher level of requirement, in terms of training (FERHAOUI, 2015). Intelligent work takes the place of prescribed work.

The so-called "execution" work incorporates an increasing share of initiative and responsibility. The rise of intellectual work values lifelong learning and requires new skills of employees who must now be adaptable, that is to say, able to respond to a problematic situation

The search for adaptability is an essential dimension of the skill increasingly sought by companies.

The different approaches to competence show that it is both linked to the work activity by which it is manifested, that it is finalised on objectives, that it is built in a work situation, thanks to autonomy and the fact that it combines different types of knowledge, but also environmental resources

The competency logic replaces the traditional "job logic" (the job/seniority couple) traditional driver of career development during the Taylorian era) (FERHAOUI M. 2011). From now on, the behavior, involvement and sharing of the company's performance objectives with employees are taken into account in the management of their careers.

Indeed, the "skills logic" is part of a managerial "doctrine" (LEVY-LEBOYER, 1999), which involves involving employees in the company's objectives by increasing their participation and initiative (LE BOTERF, 2006).

It significantly transforms the terms of the wage exchange to the extent that the employee must bring a performance that contributes to that of the company and must receive in exchange an employability, that is to say, the prospect of being kept in a job that he has helped to ensure (LE BOTERF, Engineering and Skills Evaluation, 2002).

The purpose of this communication is to propose an approach (training engineering) which could provide answers to the concerns of company managers, particularly in the field of human resources management in general and skills development in particular.

It is to report on how training engineering is used to contribute to the development and management of skills in the Algerian company.

We start from the hypothesis that training, if it is put to the service of the satisfaction of the needs of competences contributes strongly to a management of the human resources based on competences.

2. RESEARCH METHODOLOGY

This research is exploratory and based on the case method. The validation of the hypothesis was based on scientific observation in the field and data collection (semi-directive interview with HR managers and consultants). Thematic analysis is used to process the information collected.

3. FROM TRAINING TO TRAINING ENGINEERING

The work of PAIN (PAIN, 2003) and BOTERF (LEBOTERF, 1997) shows that the term engineering in the field of training is relatively recent.

Petit ROBERT defines engineering as "the design, the global study of an industrial project in all its technical, economic, financial, social aspects, coordinating the particular studies of several specialists".

This industrial and procedural concept is widely used in the field of education and training. Training engineering can then be defined as the set of procedures and methods implemented in the design, implementation, evaluation and validation of a training system, at the heart of human resources management (ARDOUIN, 2010) .

From now on, training is essential throughout life and is increasingly managed as an investment (MEIGNANT, 2009). As a result, producers and training providers need to expand and deepen their own skills in the field of training engineering if they are to contribute to the production of competence (BELKHADEM & FERHAOUI, 2020) . It is only on this condition that the logic of competence, at all levels, is likely to prevail (BARBIER, 1985) .

Indeed, the changes generated by a company's missions will constantly evolve according to the structural changes of the market, technology, innovations and the increasingly high demands of the consumer. If these changes are not anticipated, training must be long-term and an integral part of human resources management (DANNERY, 2008).

Competence now structures internal and external labour markets. It is the cornerstone and strategic asset that gives the company a relative advantage in competition at all levels (BELKHADEM & FERHAOUI, 2019). It applies to all businesses regardless of the economic and social context.

The training and education system to offer courses corresponding to the needs of companies, to identify these needs, with the help of training engineering specialists and develop the continuing professional training of their employees. This renovation requires at least two conditions to be effective.

- The first, which is at the company level, requires first of all an awareness of the importance of valuing one's human resources through training and the existence, in-house, of real skills in training engineering.
- The second, at the level of public and joint institutions in charge of continuing vocational training, also requires skills in training engineering in order to ensure efficient and useful delivery to companies.

The Training Offer must provide training engineering services to help companies identify their training needs in order to improve their economic performance.

It is on this condition that a fruitful rapprochement will then emerge between the training system and the productive system. In-depth training in training engineering is a relevant response if the skills of economic operators are to be developed and hence, their

level of competitiveness and to improve the internal efficiency of the national vocational training system.

3.1. HUMAN RESOURCES POLICY AND TRAINING: THE INTERACTION BETWEEN HUMAN RESOURCES MANAGEMENT AND TRAINING ENGINEERING

Traditional training practices characterized by the ad ho c use of different types of training (short-term, long-term, qualifying, graduate, etc.) cannot be an effective solution to the various problems and difficulties encountered by people in the exercise of their missions.

It is confronted with the risks of the inappropriation and inadequacy of teaching content and methods in relation to the professional skills needs of staff. It will also be confronted with the risk of the lack of professionalism of the training offer, the obsolescence of tools and content.

A design of training engineering related to human resource management policy will contribute to improving individual and collective competence and, if not promoted, increase the motivation of staff by giving meaning to the work they do, and give the logic of skills its full place. It will provide employees with career opportunities, job satisfaction and motivation.

Therefore, the setting up of a training engineering approach, with competent staff, within the company's human resources department seems to us essential to accompany professional and economic changes.

The training of people dedicated to training engineering within the HRD would then enable the HRM to be anchored on the logic of competence and would give the training policy consistency and good readability.

Human resource policies and training are obviously linked. The following table shows the interactions between HRM and training engineering.

Table N°1: Relationship between Human Resources Management and Training Engineering

Human Resources Management	Training Engineering
⬇	⬇
Forward Workforce Management Taking into account the demographic dimension: inputs, outputs, collective aspects of workforce development	Employment reference framework Onboarding Pathways for New Recruits Training of target audiences
Forward-looking management of skills Qualitative aspect of work, changes in individual or collective capacities	Training action: development, adaptation, techniques Training framework
Forward-looking management of employment and occupations Evolution of the demand for work by the Directorate related to national and international socio-economic determinants and industrial policy and strategic orientations	Analysis of work Employment reference framework
Forward-looking career management as part of the salary relationship Defining and planning career paths for staff	Career paths Employment reference framework

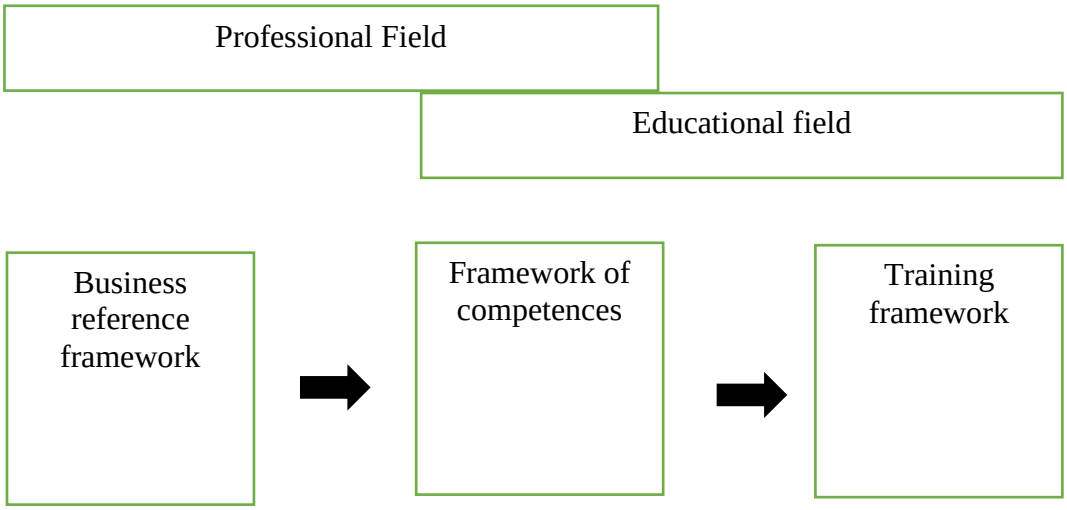
Sources: ARDOUIN T., Business Training Engineering, op, cit, p: 60

Each activity and area of human resource management is based on training engineering. There is a common thread linking human resource management, training policy and training plan. Training engineering is the support and instrument of training policy (FERHAOUI M. 2014).

3.2. THE PROCESS OF REFERENTIALIZATION

The components of this training engineering approach are a repository of employment, activities and skills resulting from the analysis of the professional activities of the persons concerned. These three repositories are a prerequisite for the construction of certification and training repositories.

Figure N°1: Training referencing



Source: ARDOUIN T., Enterprise Training Engineering, op, cit, p: 104

4. FROM REFERENCE TO DEVELOPMENT OF COMPETENCES

4.1. THE REFERENCE OF COMPETENCE/ TRAINING

We will borrow from Marc Dennery[1] the methodology for the development of a competency framework that he proposes, the main lines of which are reproduced below.

- The Training Framework

The training framework includes, for a given job stream, the development of skills in educational objectives and training programs.

It is compose of :

- A correspondence table between standard jobs and/or skills and training actions.

- Curriculum sheets of these courses. More than just a catalogue of training courses, these programme sheets are real specifications of training actions, the concrete translation of the training offer necessary for the development of the company's specific skills.

4.2. HOW TO DEVELOP A TRAINING REFERENCE SYSTEM?

Marc DENNERY proposes 7 steps and is inspired by the classical approaches of needs analysis and pedagogical engineering.

- Identify the sector and analyse the different standard jobs

A sector is a grouping of business lines most often carried out taking into account the reference knowledge implemented in the company ("savoir vendre", "savoir animer un réseau de fournisseurs", "savoir mener une étude", "maîtrise des langages et des logiciels" in the IT sector, etc.).

[1] DENNERY M., op., cit,. p 227

- Decline skills from job definitions

This second step consists in devising the necessary skills for each type of job. The most operational approach is to translate employment activities into "knowledge", "know how or practice" and "know-how".

The difficulty is to express a skill in terms that are precise enough not to be ambiguous or unclear, while remaining accessible enough to be operationally usable.

- Identify possible contributions of training

This third step aims to assess the impact of training on the development of each knowledge, know-how and savoir-être.

To do this, Marc Dennery proposes a simple method: a table allowing to question the mode of acquisition of each skill (initial training, classroom training, field training or acquisition by experience).

It also proposes to indicate whether a competence is already mastered (if it must be mastered in order to be able to occupy the position at least), when the reference framework is developed on a limited population (if a skill is mastered, then it is not necessary to look for a training answer..).

For example, here is the assessment of the contribution of training to the development of skills for the trade of trainer:

Table 2: Assessment of the contribution of training to skills development

Competencies	Already controlled	Experience	Field Training	Initial Training	Classroom Training
Know - Knowledge of teaching methods - Know the history of educational trends - ...				X	X

Know practice - Prepare the logistics - Manage a group - ...	X				X
Know-how - Listen - Fluency in public - ...		X	X		

Source: DENNERY M, ibid.

- Choose the training modules

The aim here is to synthesize the knowledge, know-how and interpersonal skills that can be developed during the same training module:

- To group the themes on which the classroom training can have an impact
- Group them into modules of coherent content and duration.

Topics requiring field or experiential learning will be covered separately in the next step.

- Draw up the specifications for each action

Each training module defined will be the subject of specifications (title, expected results, educational objectives, cost, evaluation of the result, ...)

- Researching training providers

The search can be done internally, if the required skills exist, or externally, through a call for tenders or at least a selection of service providers based on their responses to the specifications.

- Formatting the reference framework

The reference system will contain a summary of the points mentioned above (correspondence between sectors, job types, skills and training actions). The most advanced systems may even contain the initial positioning questionnaires, or the prerequisite tests, etc....,

Finally, it is based on these reference systems that we will be able to determine the appropriate content and pedagogical engineering and, downstream, to evaluate the effectiveness of the training provided and its impact on the skills of the agents.

They will allow us to consider, taking into account the status of the persons as well as their professional constraints, to envisage the adapted modes of training (internal, external, face-to-face, distance, short, long, diploma, qualification etc.).

Better still, they would help to examine the question of the relevance of the training response. Training is not always a panacea. They will also be used to draw up the specifications for training schemes and external training in order to optimize the demand and supply of training.

In this context, the training plan is one of the operational translations of human resources management. It is the analysis of the employment situation in relation to the internal context and the external environment, both current and future in terms of gaps, that justifies the implementation of a training policy

If we want to make training a lever for change in order to accompany the evolution of the context and the necessary adaptation of people's skills, it will then have to be part of a real engineering on three levels:

- social engineering to set the strategic and political objectives to which training must contribute

- training engineering to link training to the skill needs of people and jobs

- relevant pedagogical engineering to design the best training methods (organization and pedagogical work methods, appropriate materials, etc.).

4-CONCLUSION

The issue of competence, its development and management in companies must be dealt with upstream and requires skills in activity and work analysis, job analysis and training engineering.

This being said, alongside the existence of a rigorous training engineering approach, there must be a set of guidelines. Therefore, beforehand, there is a necessary work of referentialization, which situates the framework, and the objectives of any action of competences acquisition

An upstream action would allow the development of training engineering skills both in productive organizations and in public and private institutions in charge of continuing professional training. The innovative engineering method is in interaction with an HRM based on the logic of competences and is declined in phases: job and activity referentials, competency referential and training referential, without forgetting the certification referential, which will start from the texts in force to be eventually updated and deepened.

We think indeed that the Algerian company must be in tune with the modern requirements that are imposed on the company in general and to it in particular. The human resource is more and more a strategic factor whose valuation is essential in the economic competitiveness both from the national and international point of view

The problem of updating nomenclatures and other skills repositories will no longer be posed in the same terms as today. It will be handled instantly thanks to the training engineering skills of the company's internal players in collaboration with external resources.

The use of these skills within the framework of consulting and/or training organizations can also contribute to solving this type of problem in the interest of the company and the national training system.

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