

Development of a Dashboard Destined to Improve the Performance and Quality Insurance: Case of Employability

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Abstract

Employability is, currently, a central axis of the insertion policies. Under the influence of political and economic constraints, it has grown rapidly as a privileged instrument to fight against persistent mass unemployment and against the increasing deterioration of the relative position of low-skilled individuals in the labor market. However, its importance related to its systemic and mixed dimension, including both, individual, organizational and labor market levels, and mobilizing operational indicators.

In that context, the strategies related to employment, place a high priority to the qualification and skills; two pillars of measures devoted to it: the "employability" pillar, which aims to increase individual insertion capacity, and "adaptability" pillar, for the graduates skills and competencies updating.

Thus, and in the wake of this optic, we propose, first, to outline in this article, a literature review and the state of the art in terms of employability. We chain, afterwards, with the exposure of the study interest. To corroborate this statement, we will propose, in the last part, the results obtained through the Minnesota Satisfaction questionnaire, and a dashboard summarizing the most

relevant indicators to monitor the degree of the expected goals achievement..

Keywords - Employability, Integration, Employment, Satisfaction, indicator, Training.

I. INTRODUCTION

Employability is the intersection of a recognized professional status and a potential or probable situation, ie unrealized and possibly may not be materialized. However, its integration with the enterprise social policy is still mostly limited to emergency situations such as restructuring.

Currently, there is no consensus on a definition of employability (see table N°1) even if this concept refers basically to the capacity to be used, capacity often translated into probability, for an individual, to be employed [1].

The concept of employability refers to the insertion conditions of young people into work, particularly young graduates. Such conditions are apprehended by some criteria relating to the job searching duration, that's means the behavior of the jobs proposals faced with the "value" of diplomas as "validated "by the labor market and business representatives [2].

Generally, employability refers to all of the factors which, among a person; determine its accessibility to the labor market. These factors are, firstly, related to age, schooling, health status, academic and professional training. On the other hand, there are some factors related to the personal psychosocial conditions, such as motivation, attitude to work and training, mentality and social values [3]. Although seemingly complete, this definition makes the person both the problem and the solution. The problem because the causes of unemployability can be found at the level of social and psychosocial factors [3], and the solution because the person is the weakest link that determines the success of restructuring efforts.

Three key elements are highlighted by defining the employability [4]:

- The ability to obtain an initial employment conditioned enter alia by the education system;
- The ability to keep his job and lead the transitions between jobs and roles at the same organization;
- The ability to find another job if necessary, understood as the ability and willingness of individuals in the management of job transitions between organizations and within them.

Table 1. Some definitions of the employability concept [5]

Laizé (2007, p.7)	All of the skills, conditions of the human resources management, and organizational and societal modalities necessary and sufficient to enable the employee to maintain an employment situation, in a reasonable time and conditions the whole in a dynamic and challenging context of professional mobilities.
Saint-Germes (2006, p.2)	"Dynamicability to employment, i.e. the ability to be in employment, to stay, to adapt and rebound where appropriate"
Ledrut (1966, p.68)	"Objective expectation or more or less probability that a person, looking for a job, may have to find one "
Gazier (1999, p.39)	"The fact for each asset to own dynamic and updated skills and demonstrate an oriented behavior on the labor market"
Tremblay (1998, p.34)	" The establishment of a maximum ratio of congruence between supply and demand to meet a job requirements "

II. STATE OF THE ART

Historically, the concept of employability is appeared in the anglo-saxon companies at the beginning of the twentieth century. The Employability, fundamentally understood as the ability to be an employee, is a built complex used for many years in the policies of employment and professional insertion [6].

Otherwise, the employability should not just be concerned with preparing graduates to be successful in the labour market but also about preparing them to contribute to society as a citizen. They defined employability as a set of graduate attributes; ‘the qualities, skills and understandings a university community agrees its students would desirably develop during their time at the institution and, consequently, shape the contribution they are able to make to their profession and as a citizen’[30].

Until the 1940’s, the employability concept is a static concept which is located at the global level of the labor market or the society [7]. It is possible to speak therefore about a dichotomous employability.

The second phase has been the emergence of a French approach, in the 1960’s, centered on the collective and the statistical flow, and therefore from different natures. This period is thus characterized by a heterogeneous modernization of the concept uses.

The third phase, date to the end of the 1980’s, was characterized by the development of a contemporary approach of the employability, taking into account the individual and collective dimensions of the concept. It is a question, in particular, of an expected employability on the labor market [7], which refers to the ability to extract an income on the labor market for a given period.

Two elements are then highlighted: creativity and individual responsibility [8] as well as the ability to build and mobilize social networks [9]. Many authors, working on the theme of employability, adopt a definition of the concept which combines individual and organizational, internal and external elements [10] (see figure N°1):

The concept of employability is relevant from the labor market changing [11]. Four major trends are usually highlighted in the literature:

- Market turbulence and uncertain environment which led to multiple restructurings, mergers of enterprises in the last twenty years.
- The current transformations of job categories to more precariousness and flexibility (quantitative and qualitative).
- Outsourcing of labor markets: professional career is now made "in" and "out" of the organization. A shift therefore takes the concept from internal mobility to employability.
- The growth of long-term unemployment and persons considered in an "underemployment"

By extension, we find the idea of initiative employability, but interpreted in the organizational plan: it is a question of obtaining the meeting of the necessary conditions for the agent to actually have a power of action and initiative on his professional career [12].

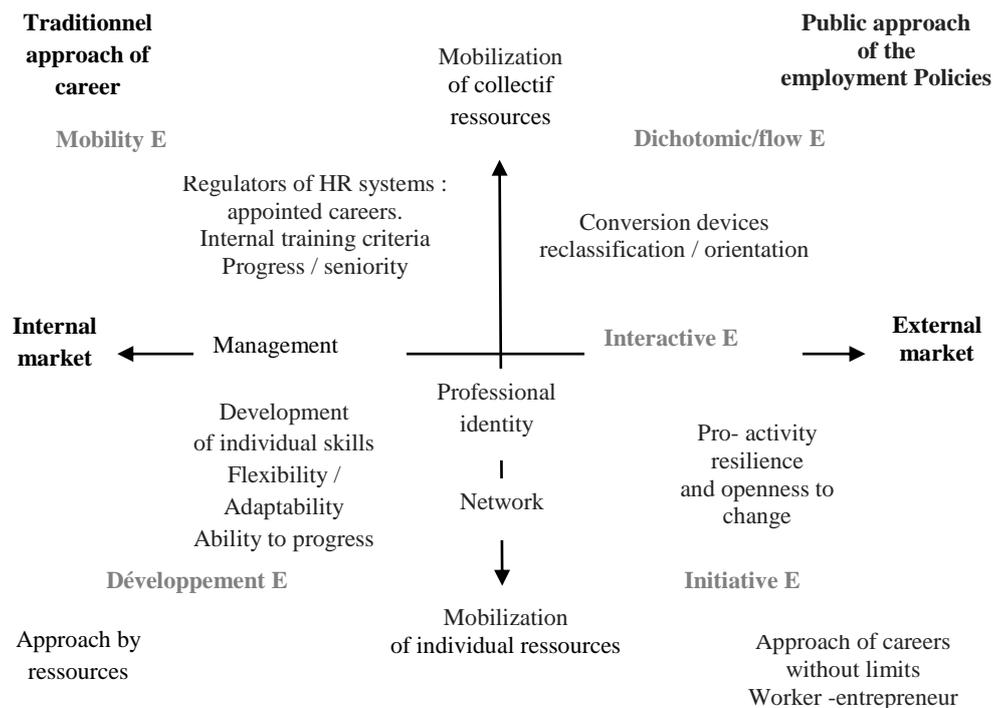


Fig.1. Employability models in literature [13]

III. INTERESTS OF THE STUDY

Employability can be considered as a genuine social policy, based on individual characteristics and including the state of the labor market. The interest of the concept lies in its systemic and mixed dimension, mobilizing operational indicators and performances [6]. It is a question of getting the meeting of the necessary conditions so that the person actually has a power of action and initiative on his professional career [12].

Our research questions are arising from the literature previously exposed [5]. If for a long time employability was centered on the individual and therefore not within the responsibility field of training institutions, it begins to involve. Indeed, the graduate's employability makes sense in a context where "lifetime employment" is disappearing. Training institutions thus become a "stakeholder" in the employability development [14].

However, the increasing complexity of information and means of communication systems, impose a very heavy responsibility to actors which are related to the monitoring of employability whatever the level of the function they integrate [15].

In this context we refer here to the concept of "intention to develop employability" [16], in order to underline, the importance of measuring in the development of this concept.

In this regard, a precise and well suited scoreboard for each function is a certain asset for optimizing the quality of the chosen indicators [17].

This selection of indicators, leading to the mastery of the employability evolution, is made on individual criteria such as access to training or commitment and adaptability [18].

On the labor market, this scoreboard will analyze the global and collective processes, and try to measure the likely performance of a training institution or a unit within it.

Our problem can be synthesized, therefore, through a series of questions [5] :

- 1) How does the job satisfaction influence the intention to develop employability?
- 2) What are the main areas that may impact the measurement of the effectiveness of actions relating to the employability concept?
- 3) What are the indicators allowing the monitoring of employability of graduates within a training institution?

IV. METHODOLOGY

To answer the questions mentioned above, we saw inevitable to develop our approach on two components:

The first part concerns the answer to the first question "the intention of developing the employability," [19].

In fact, the first choice to be made, when conducting an analysis, is between the use of questionnaires and interviews (the mostly semi-directive).

Quantitative analysis may be useful for several reasons [31]:

First, is to have an overview of a large sample of the entire target population. Then, we quantify more easily the observed phenomenon (which is often a business demand). Finally, to request all of the individuals work aspects and thus reduce the risks of obtaining a partial view.

When we proceed by the way of non-directive interview, the analyzed elements are those that the person has in mind at that time.

There is therefore a significant risk of omission and dependence on events that immediately precede interview.

In addition, the person may (Intentionally) not address certain aspects during the interview, while in the questionnaire, we can ask respondents to position themselves on all aspects of their work.

Therefore, we can't say that the questionnaire is a perfect tool, in particular, because it requires to univocal answers, where attitudes are often more vague and in fact the simple answer to a scale does not give him a margin for maneuver [26].

That said, to estimate job satisfaction we chose the MSQ (Minnesota Satisfaction Questionnaire) [20]. The Minnesota Satisfaction Questionnaire (MSQ) is designed to measure an employee's satisfaction with his or her job. Three forms are available: two long forms (1977 version and 1967 version) and a short form. The Minnesota Satisfaction Questionnaire provides more specific information on the aspects of a job that an individual finds rewarding than more general measures of job satisfaction. The Minnesota Satisfaction Questionnaire is also useful in exploring client vocational needs, in counseling follow-up studies, and in generating information about the reinforces in jobs [28].

The Minnesota Satisfaction Questionnaire was one of the outputs from the "Work Adjustment Project" at the University of Minnesota; the theory is based on the assumption that work fit is dependent on the correspondence between the individual skills and the reinforcements that exist in the work environment [23].

It's about a self-reporting measure, suitable for individuals of all school levels that can be administrated separately or individually.

The Minnesota Satisfaction Questionnaire "long form" consists of 100 questions that make up 20 subscales assessing satisfaction; twenty of these items make up a frequently used measure of general job satisfaction and are referred to as the short version [24].

The Minnesota Satisfaction Questionnaire "short form" includes only 20 of the 100 original items, namely, the ones that better represented each of the 20 original subscales [25] [27].

The Minnesota Satisfaction Questionnaire is a paper-and-pencil inventory of the degree to which vocational needs and values are expressed. The Minnesota Satisfaction Questionnaire can be administered to groups or to individuals. The Minnesota Satisfaction Questionnaire Short Form requires about 5 minutes [29].

The 20 MSQ-short version items are rated on a 5-point scale (“1” very satisfied with this aspect of my job) (“2” satisfied with this aspect of my job) (“3” can’t decide if i’m satisfied or dissatisfied with this aspect of my job) (“4” unsatisfied with this aspect of my job) and (“5” very unsatisfied with this aspect of my job”). Item responses are summed or averaged to create a total score – the lower the score, the lower the level of job satisfaction.

The table below (See table N° 2) represents the short format questionnaire target population in order to collect the maximum of information relating to the field of employability and job satisfaction.

Table.2.Minnesota satisfaction Short format questionnaire

		Very Satisfied	Satisfied	"N" (Neither Satisfied nor unsatisfied)	Unsatisfied	Very unsatisfied
Q1	Ability Utilization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q2	Achievement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q3	Activity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q4	Advancement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q5	Authority	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q6	Company Policies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q7	Compensation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q8	Co-workers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q9	Creativity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q10	Independence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q11	Moral Values	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q12	Recognition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q13	Responsibility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q14	Security	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q15	Social Status	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q16	Social Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q17	Supervision-Human Relations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q18	Supervision-Technical	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q19	Variety	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Q20	Working Conditions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

V. APPLICATION OF A CASE STUDY: EXPERIMENTAL VALIDATION

In order to validate our methodology, we applied it at a higher education institution in Morocco.

- Phase 1: Results and discussion:

The study focused on a population of 20 graduates from the target higher education institution belonging to 3 levels (from 1st to 3rd year) (see figure N°2) to which we administer our questionnaire because they are the first population concerned by the phenomenon of employability.

The collection of data was based on the basis of the self-administered questionnaire to the 20 target graduate accompanied by a letter presenting the topic of the survey.

The hard copies of the questionnaires were administered to participants and were collected directly after they had been completed anonymously.

We explained to the participants that the questionnaires would be treated confidentially.

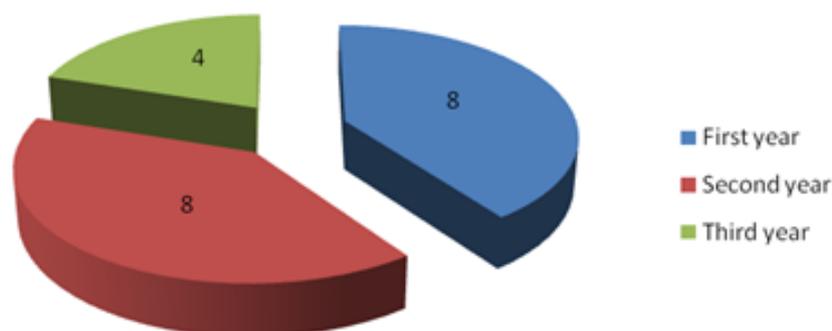


Fig. 2. Distribution of the target population seniority

From the 20 questionnaires distributed we have received 20 responses (a rate of 100% of responses). In support of the statistical analysis of this questionnaire we got the conclusions outlined below.

By elsewhere, the second component of our methodology concerns the response to the second and third questions. Indeed, as part of the effectiveness measuring process of the actions relating to the concept of employability, a working group has been put in place including members of our target higher education institution staff in Morocco (sample of professors, managers, and technical staff) in order to collaborate on the development of the indicators and targets. The concerned group is called also to monitor the results and to possibly participate in the revision of the indicators (Phase 2).

Once the definitive indicator is developed, we can proceed with the establishment of the targets. This allows anticipating the level of the result to achieve at the end of the reference period (generally after each year). The frequency of the measurement depends on the "sensitivity" of the indicator.

The table below (see table N°3) reports the results of the above study realized in our targeted higher education institution in Morocco.

Table.3. Synthesis of obtained results

		Very unsatisfied	Unsatisfied	Neither satisfied nor unsatisfied	Satisfied	Very satisfied
Q 1	Ability Utilization			2	8	10
Q 2	Achievement	2	8	1	9	
Q 3	Activity		4	6	5	5
Q 4	Advancement		4	6	6	4
Q 5	Authority			10	10	
Q 6	Company Policies	1		9	9	1
Q 7	Compensation		2	7	6	5
Q 8	Co-workers	1	4	6	4	5
Q 9	Creativity		6	4	2	8
Q 10	Independence		9	6	4	1
Q 11	Moral Values	2	2	6	6	4
Q 12	Recognition	1	3	6	7	3
Q 13	Responsibility		5	4	7	4
Q 14	Security	4	5	0	11	0
Q 15	Social Status		5	7	4	4
Q 16	Social Service	2	1	3	4	10
Q 17	Supervision- Human Relations		1	4	4	11
Q 18	Supervision- Technical		1	4	6	9
Q 19	Variety		4		9	7
Q 20	Working Conditions	1	2		10	7

Statistical analysis of the results shows that the majority (32.75 %) of graduates questioned are satisfied with the actions taken in order to develop their employability [20]. The results are shown schematically in the following figures (See figure N° 3, figure N° 4 and figure N°5):

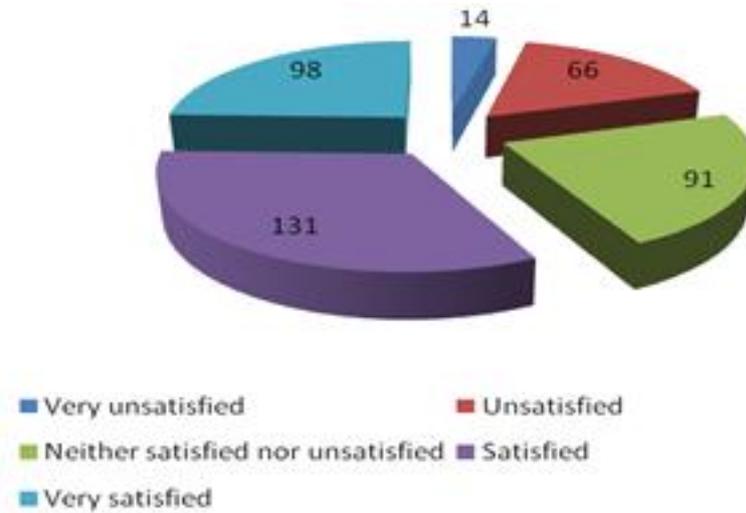


Fig.3.Distribution of responses per question (statistics)

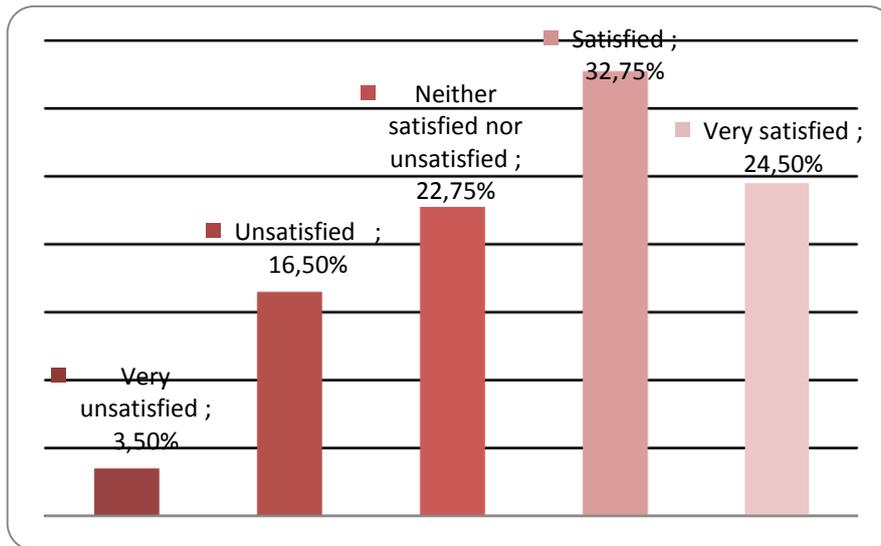


Fig.4.Distribution of responses per question (percentage)

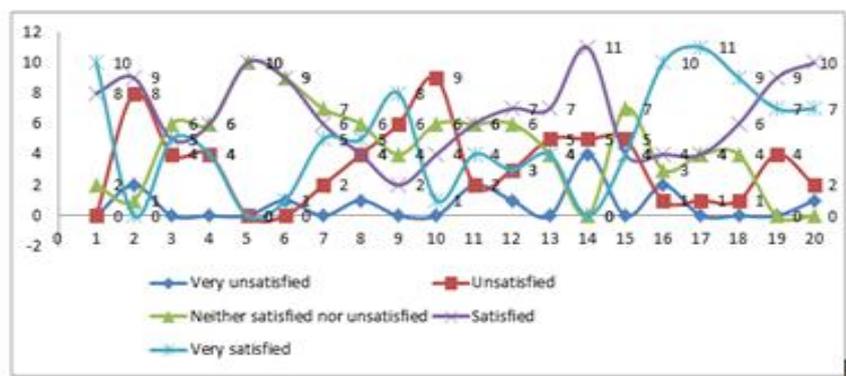


Fig.5. Distribution of results per response

- Phase 2: Proposal of an employability dashboard:

The proposed dashboard is a performance monitoring tool for viewing closely a set of indicators relating to the employability concept [21], [22].

Respecting the expected objectives as described previously, the working group has examined the establishment of a dashboard including the most relevant performance indicators in view of our target higher education institution needs. Such indicators tend to be relevant only in so far as the needs expressed are part of the contextualized process [2].

After many working session with institution target working group, the results obtained are mentioned in the tables below (see tables N°4, N°5, N°6 and N°7).

Table.4. Employability dashboard

Indicator	level N		Evolution % (N/N-1)	Obs
	Target	Achieved		
Employment and unemployment				
Full-time employment rate equivalent by sex in the range of age (15-64)	x	x	x	x
Unemployment rate by sex	x	x	x	x
Long-term unemployment rate by sex	x	x	x	x
Entry rate in the long-term unemployment	x	x	x	x
Times of jobs	x	x	x	x
Unemployment duration	x	x	x	x
discouraged unemployed	x	x	x	x
Employment by Industry / Service	x	x	x	x
Unit costs of labor	x	x	x	x
Jobs proposal	x	x	x	x
Employment / Population ratio	x	x	x	x

Table.5. Job quality

Indicator	level N		Evolution % (N/N-1)	Obs
	Target	Achieved		
Job quality				
Nature of employment	x	x	x	x
Work time	x	x	x	x
Annual of hours average actually worked	x	x	x	x
Part- time work frequency	x	x	x	x
Part-time workers undergo	x	x	x	x
Part-time workers for economic reasons	x	x	x	x
Low pay frequency	x	x	x	x

Table.6. Performance of the labor market

Indicator	level N		Evolution % (N/N-1)	Obs
	Target	Achieved		
Performance of the labor market				
Effort indicator	x	x	x	x
Non- respect rate (No effort)	x	x	x	x
Activation rate	x	x	x	x
Activity rate	x	x	x	x
Rate of return to employment (unemployment)	x	x	x	x
Employment Growth	x	x	x	x

Table.7. Labor market policy

Indicator	level N		Evolution % (N/N-1)	Obs
	Target	Achieved		
Labor market policy				
average annual salary per employee in equivalent full-time and full year	x	x	x	x
Distribution of gross remuneration and salary gap by sex, age and education level	x	x	x	x
Public expenditure and participants in labor market programs	x	x	x	x
Strictness of employment protection	x	x	x	x

VI. CONCLUSION

The employability assessment remains a very vast field of research Insofar as a few instruments are developed and used in higher education institutions, while a large number of potential employability indicators are available. An instrumentation effort is still needed from managers to give a full scope to the concept in the employment management.

Employability, despite its complexity and the operationalizing difficulty, appears as a useful concept in the careers management following to the loss of the organizational career concept relevance, the multiplication of the real and related professional discontinuities and some workers mind sets change.

It's about changing the employment relationship to a more dynamic and systemic approach that the concept of employability can support. Temporal and organizational limits are pushed and the individual takes central role in the strategic visions. However, an employability policy is meaningful only if it is accompanied by a fight against unemployment vulnerability. Such policy invests in people to broaden their actual extent of choice and increase their skills.

The objectives of this study were twofold : The first objective was to investigate the reliability of the Minnesota Satisfaction Questionnaire by using it for statistical data recovery from the target population.

The results obtained through our employability development survey prove that the Minnesota Satisfaction Questionnaire-Short version is a valid and reliable scale for the measurement and provide evidence that efforts have been made. Future research should focus on the exploitation of a wider sample in the aim of verifying the external validity.

The second objective of our study was to propose a performance monitoring tool linked to the notion of employability. The utility of this tool is that it comes from the intrinsic need of the target institution and it could obviously be subject to changes according to changing needs.

Indeed, the proposed dashboard is an inevitable tool to support employability policies, to monitor the progress of various indicators, in order to set appropriate improvement actions.

As a perspective of this work, we are currently working on another development that aims to introduce the dimensions of quality and costs in measuring the employability performance. A larger data set will also serve to confirm aspects of the current research, resolve interpretative issues, and elucidate any additional structure of responses through the application of expanded statistical methods.

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