

CRITICAL FACTORS IN HRD PROJECTS' IMPLEMENTATION: EVIDENCE FROM PUBLIC UNIVERSITIES IN ROMANIA

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Abstract: For Romania, European Integration came with new challenges for the entire society, especially for investment project promoters, including public higher education institutions. Investments in human capital development and education have an important role in a country's economic development and growth but, in spite of the large number of human resources development public projects being financed, major problems were identified in their implementation process, particularly factors from the macro-economic and institutional environment. Most of the current interest in this area is centered on identifying and analyzing these key factors since their understanding might lead to ensuring an improvement of the implementation process and to a project's success. In this context, our paper's objective is to provide a set of critical success factors for HRD projects' implementation process by developing a framework for external environment factors' analysis from a public project management perspective. Taking into consideration the current impact of the external environment' factors upon projects in Romania, in this paper we chose to focus our attention only on the critical success factors of the external socio-economic, institutional, technological and cultural environment, that affect the implementation phase of a project. We started with an analysis of the Romanian context that allowed us to develop a conceptual framework. We then realized a survey on a sample of three Romanian public universities which implemented projects in human capital development by developing and applying a questionnaire to 112 persons involved as management in projects in order to identify the key factors from the external environment that affect a project's implementation process. Results show that the most significant factors, with a negative impact, are political and economical ones while technological and cultural factors are perceived as factors with a positive influence. Our conclusions have a high informational content and can be useful for those involved in policy making and building institutional capacity in terms of human resources development.

Keywords: project management, human resources development project, critical factor, PESTC analysis, implementation management.

JEL classification: C83, I25, O15, O22.

1. Introduction

Although Romanian universities, especially public ones, should access EU funds for HRD projects, the current low absorption degree and the problems manifested as well as the certainty that the funding will reappear in the next financial programming period (2014 – 2020), underlie the necessity as well as the opportunity to study HRD

projects' implementation framework and the factors that determine its success or failure.

In this sense, our study's objective is to provide a set of critical success factors for HRD projects' implementation process by developing a framework for external environment factors' analysis from a public project management perspective.

In order to fulfill the paper's objective, we have started with an extensive literature review, approaching the topics of project management, HRD projects, key factors and their study in the specific literature, followed by an analysis of the Romanian context which allowed us to develop and test a conceptual framework.

It should be noted that even though the originality of our research does not rely on the method applied (questionnaire survey) our results and conclusions have a high informational content and can be useful for those involved in policy making and building institutional capacity in terms of HRD.

2. Literature review

2.1. Critical success factors in projects

Project Management has seen in recent years an important growth as a research area given that the project work environment has become increasingly complex and unstable. In this context, the analysis of factors that determine the success or failure of the projects appeared, precisely because often project results do not meet stakeholders' expectations (Jugdev and Müller, 2005).

Key success factors in projects can be seen as a series of conditions, areas, circumstances that contribute to the fulfillment of projects' results (Ika, 2007) or, in other words, areas where "things must go right" (Rockart, 1978) for the successful implementation of the project and for its successful results.

Although the number of articles that analyzed projects' critical success factors is extensive (Kwak, 2002, Ika, 2007, Ika, 2012, Khang and Moe, 2008, Dvir et al, 1999, Stankovic et al, 2013), there is no general opinion regarding key factors: some factors seem to have a universal character, appearing in several studies, while others are linked to the specific nature of the project. Meanwhile, the increasing diversity of projects highlights some of their characteristics, depending on the type of project analyzed. The idea that projects are different and that these differences render differences in the "optimal" management path also appears in various studies (Howell et al, 2010).

Thus, for the hard category of projects (construction projects, institutional and technological infrastructure - equipment, software platforms), usually success is determined through quantitative criteria whilst for the soft category of projects (education, health projects), qualitative criteria are used (Crawford and Pollack, 2004, cited by Ika, 2007).

In terms of international development projects, the literature is relatively limited. Some of the most relevant studies are conducted by Khang and Moe (2008) and Ika et al. (2012), studies based on the analysis of responses obtained by distributing questionnaires. Meanwhile, Kwak (2002) performed a review of 10 categories of internal and external variables that act as challenges in international development projects. In the case of international development projects, the macro-economic and institutional environment's characteristics of the receiving country play an important role, along with internal factors related to monitoring and coordinating the project.

We consider that their importance is directly linked to the uniqueness of the macroeconomic, institutional and cultural environment of these projects, regardless of their field of activity (education, health and nutrition, water and sanitation sewage, environment, infrastructures, judicial or institutional reforms).

On the other hand, organizational development projects have been the subject of analysis from different perspectives, the most important being related to the information infrastructure (hardware and software) and integrated business systems connected to organizational change efforts and Business Process Reengineering. The critical factors in the implementation process occur mainly from the internal, organizational environment or from stakeholders' relationships as underlined by the studies of Chow and Cao, 2008; Stankovic et al, 2013; Ram et al., 2013.

Human resource development projects implemented through structural instruments have both an international dimension, determined by the source of financing funds, approaching thus the typology of other projects funded by international organizations (World Bank, EBRD) and an organizational development dimension which completes projects that aim the organizational infrastructure component.

Human capital development is one of the major directions through which a country can remodel. SOP Human Resources Development (SOPHRD) has a range of measures and funding lines, some of which are accessible to universities in general (in particular, to the public ones). Through structural instruments of European Union, public universities in Romania have been a major recipient of these funds through three priority axes: "Education and training in support for growth and development of knowledge based society", "Linking lifelong learning and labour market" and "Increasing adaptability of workers and enterprises". In addition to these axes and areas, universities could access, as training providers, funding from other priority axes, especially "Promoting social inclusion".

The current low absorption stage of this program, the gaps manifested in its progress, and the certainty that the program will reappear in the financial programming period of 2014 - 2020, requires studying the implementation framework and the factors that can determine its success or failure.

Although extremely generous in terms of investment and human capital development possibilities, SOP HRD showed major gaps in implementation. The national studies in this area aren't numerous, being limited to professional analysis of experts or consultants or policy analysts. Results may be mentioned that have indicated both economic and political system problems, both at a macro environment and organizational and institutional: the implementation structures, the human resources involved and the systems of monitoring and evaluation (Oprescu et. al., 2007, Gherghinescu & Rinderu, 2011), unknown calendar of the calls for projects, lagging deadlines for project submission, modifications in the documentation for the applications for financing, bureaucratic excess (bureaucratic fanatics), delayed evaluation of the applications (Cace et. al, 2009), lack of analysis regarding ways to complete the target group, unrealistic financial forecasting for the project, overestimated indicators (Braşoveanu et. al, 2011), or unstable political environment, which has undergone many changes in 2007-2012 (Stoina, 2012).

All of the mentioned aspects underline the necessity for studies to highlight critical implementing factors depending on the specifics of beneficiaries.

3. Research model and design

Taking into consideration the current impact of the external environment' factors upon projects in Romania, as underlined above, in this paper we chose to focus our attention only on the critical success factors of the external socio-economic, institutional, technological and cultural environment, that affect the implementation phase of a project.

The starting point of this research was the model proposed by Ika et al., 2012, which we adapted and developed by focusing on the external environment variables that may affect a HRD project. In view of our research objectives, we consider that the most appropriate external environment assessment model is PESTC which, as shown in the specific literature, is often used as a strategic instrument in project management (Belassi and Tukel, 1996). The model contains factors that can be divided into five categories: political, economic, social, technological and cultural. The variables chosen for each category are presented in table 1 below.

Table 1: The framework model's variables

Type of factor	Variables
Political	Stability of the projects implementation' legal framework; The complexity of the projects implementation' legal framework; The existence of support from local authorities or other public bodies in the implementing process; Faulty governmental management of European funding sources.
Economic	Self-financing capacity of projects at the government level; Self-financing capacity of projects at the institutional level; Labor market characteristics.
Social	Partners' experience in implementing EU funded projects; The demographic evolution of groups connected to the academic environment; Potential beneficiaries' reluctance to integrate in the target group.
Techno-logic	The partners' quality of the technological / research infrastructure and informational system; The partners' logistic capacity to support the project; Automation of operational procedures.
Cultural	Relations with the administrative system that manages EU projects; Stakeholders' attitude towards the possibility of project completion; Corruption in the institutions responsible of project implementation; Stakeholders' attitude towards change; The universities' perception within the economic and social environment and the community.

In order to better substantiate our model, we then analyzed each group or category of variable, as follows:

Political factors – currently the Romanian political environment is characterized by a high degree of instability, political tensions and a poor quality of regulations. Although experience has shown that one of the main issues in implementing HDR projects is its regulatory framework, the World Bank 2007 study placed Romania on the 71st place (out of 212 states) for its quality of regulations.

Economic factors - The economic environment should be characterized by growth, innovation and mobility, aspects that are a reflection of economic interconnections, the result of globalization, growing grazing due to technological advances. In Romania, we are faced with a general context of economic crisis that accelerates, underfunding and poor access to education with an uncertain nature of economic forecasts.

Social factors - such as demographic evolution, unemployment and the need for retraining, education level, unequal access to education by income, inclination towards continuing education such as lifelong learning, cross-border migration between rural and urban areas or from small towns to the cities, determine the need to implement projects aiming target groups of population in various stages of initial training or certain levels of professional development. On the other hand, the Romanian academic environment constantly tries, without a clear success, to integrate subject areas in initial and continuous training of human resources to meet the real needs of the market.

Technological factors are very important in the management of project implementation, logistics infrastructure, office equipment and hardware and software support, multimedia equipment and virtual educational platforms have grown more in the last decade within the Romanian public universities, for the following reasons: (i) the existence of alternative financing sources through projects and the increase the tax education, especially in socio-economic and legal sciences, and (ii) a broad financial autonomy that allows the use of resources according to the university's own institutional development strategy in accordance with the law.

Cultural factors are less studied in the literature as success factors of project implementation. We only found brief description of some in Kwak, 2002. However, their presentation is in terms of cultural differences that arise when projects involve partners from different countries (according to the comparative management study paradigm and not project management), when this paper proposes a different approach, that justifies their inclusion in the model (complement the traditional PEST model): taking into consideration national cultural factors that through their characteristics can support/impede the successful implementation of projects. On the other hand, we believe that there is a two-way relation between the institutional architecture of a country and its cultural paradigm: the cultural profile of a country consists of its institutions and the institutional framework is set up by the members of a country (culture) through their deepest values (Branca, 2007).

On these grounds, we formulated our first research hypothesis, as follows:

H1. PESTC factors exert a significant impact on the successful implementation of HRD projects in Romania.

Corruption, institutional bureaucracy, unpredictable change and poor institutional governance are, in our opinion, the environment variables that define the institutional cultural context. Corruption is a variable that presents strong negative aspects in Romania. According to Transparency International, Romania registered a score of 48, whereas 0 means that a country is perceived as highly corrupt and 100 means it is perceived as very clean. Of the 176 countries surveyed, Romania ranked 66th, far from the rankings recorded by other EU countries. These variables are especially important for the issue of this paper since they may be generalized at an institutional level. In these circumstances, we consider that the political, economical, social and cultural variables indicated in table 1 above have a negative impact on HRD projects' implementation, while technological ones, especially

logistics and infrastructure contribute to the project's success, ensuring a proper functioning of the project partnerships, a real-time relationship with the target groups, the application of modern methods for conducting trainings and the possibility of implementing software platforms for practical applications (business simulation). Thus, we then formulated the 2nd research hypothesis:

H2. Political, economical, social and cultural factors have a negative impact whilst technological factors have a positive impact on HRD projects' implementation.

Political factors essentially determine the macro context in which any type of project develops, in that it generates the legal and regulatory framework of the entire project cycle, which includes the implementation phase. The relations between national responsible authorities and the European Commission are fundamental in ensuring the coherence of programs and projects. Given the political instability generated effects in the management of the Managing Authority, the European Commission's audit reports were largely negative, causing interruption and suspension of funding. The uncertain nature of economic forecasts generated a lack of confidence of both beneficiaries in terms of self-financing ability and target groups in terms of results' sustainability. As such, we formulated the third hypothesis:

H3. The negative impact of the political and economical factors is more significant than that of the social and cultural factors upon HRD project's implementation.

4. Methodology and results

4.1. Research methodology

Hypothesis testing and validation was performed using quantitative methods of gathering information, a questionnaire-based survey, considered appropriate in the context of the research's objective.

The questionnaire was developed with the intention to offer the possibility of appreciating the impact of preselected variables from the external environment, as perceived by the subjects. The questionnaire contains a set of 18 items, grouped according to the five types of factors from the external environment, as mentioned and explained in table 1 above and it also includes a section for the collection of socio-cultural information considered relevant for testing the established hypotheses. For each item a five step scale was attributed, from major negative impact (1) to major positive impact (5). The process of information collection was performed during two months (January and February 2013) by distributing questionnaires to a number of 210 employees of 3 public universities from the Western Region of Romania, representatives in terms of academic and research results, that developed such projects since 2007. The sample selection process involved personnel that was part of a HRD implementation process from a decision-making point of view (management functions) or from an administrative one (administrative functions).

4.2. Data analysis and interpretation

The information collected was processed using SPSS 17. Of the 210 questionnaires distributed, 112 were validated. Our preliminary analysis of the data revealed that the sample is fairly balanced with regards to the socio-cultural variables considered. The descriptive analysis of the sample shows that the majority of the respondents are male, within the 30 – 45 age group and with a longevity under 5 years. Also, the respondents are predominantly teaching staff (64%) taking into account that the SOP HRD's structure encourages active participation of the teaching staff in project

management structures. As for the respondents' experience in implementing HRD projects, for both of the variables considered (project team function and participation in HRD projects), results show that our targeted group is highly experienced due to their decision-making positions in project teams and their participating in a large number of projects of this kind. Thus, we can state that all of the information provided and analyzed as follows is consistent and reliable from this point of view. In order to determine the integrity of the success factors' scale, we performed a reliability analysis by computing all of the variables for the five external factors.

Table 2: Reliability analysis of the critical factors

External environment factors	Cronbach alpha coefficient value
Political factors	0,837
Economical factors	0,712
Social factors	0,446
Technological factors	0,746
Cultural factors	0,754

The values calculated for the Cronbach alpha coefficient (as shown in table 2) achieve a level greater than 0.7, except for the Social factors. When analyzing individual items within the scale, we observed similar coefficient values, thus proceeding to the elimination of this factor from our research framework. This poor internal consistency of the Social factors can be explained through our selected sample characteristics – implementation project team members, when the individual items included in this factor category are perceived with a greater intensity by HRD projects' targeted group since they determine the project's social output.

Next, we focused on analyzing the respondents' perceptions regarding the type of impact (negative or positive) on the implementing process of the four external factors, through their attributed items (table 3).

In view of the project management staff's perceptions, the four remaining types of external environment factors have a significant impact on the implementation process, namely a negative one when analyzing political and economical ones and a positive effect in the case of technological and cultural factors, thus partially confirming H1.

Table 3: External environment factors' impact analysis (N=112)

External environment factors	Negative impact	Positive impact
Political factors	82,1%	12,5%
Economical factors	58,9%	39,3%
Technological factors	7,1%	87,5%
Cultural factors	25%	62%

A detailed analysis of the perceived items' impact showed that in the case of political factors, 58,9% of the respondents appreciated *The complexity of the projects implementation' legal framework* as a major negative impact item, followed by the *Stability of the projects implementation' legal framework* – 53,6% and *Faulty governmental management of European funding sources* – 51,8%, while *The existence of support from local authorities or other public bodies in the implementing*

process is perceived as a minor negative impact factor by the majority of the respondents – 30,4%

For the economical factors, *Self-financing capacity of projects at the government level* and *Labor market characteristics* are perceived as major negative impact factors (by 44,6% and 32,1% of the respondents) on project implementation while 39,3% consider that *Self-financing capacity of projects at the institutional level* has a major positive impact.

Technological factors, namely *The partners' logistic capacity to support the project* (51,8%) and *Automation of operational procedures* (50%) are perceived as factors with a major positive impact and *The partners' quality of the technological / research infrastructure and informational system* is also a positive impact factor as appreciated by 35,7% of the analyzed population.

As for the cultural factors, three items are categorized as generators of major positive impact (*Stakeholders' attitude towards the possibility of completion of the project* – 37,5%; *The universities' perception within the economic and social environment and the community* – 35,7% and *Relations with the administrative system that manages European projects* – 33,9%) and two as negative ones, *Corruption in the institutions responsible of project implementation* – 44,6% with a major impact and *Stakeholders' attitude towards change* – 23,2% as a minor impact. These results partially confirm H2 since Cultural factors are perceived by our studied group to have a positive impact on the HRD projects' implementation process and H3 could not be validated by virtue of the factors' obtained type of impact.

5. Conclusions and discussions

As stated in the beginning, our research aimed at identifying the main factors from the external environment that affect a HRD project's implementation success. Throughout the paper, we underlined the necessity and the relevance of PESTC analysis in terms of strategic project management and operational project management, focusing on project's implementation process due to the current problems encountered. The research's results highlighted that Political and Economical factors have a major negative impact on the project's implementation process, as perceived by the public universities' staff.

Contrary to our arguments, based on other specific studies and observations, Cultural factors, as perceived by our sample, are shown to be of a positive impact upon the implementation process, results that indicate an optimistic approach as consequence of past success in developing and implementing such projects.

An unexpected outcome of our study was the exclusion due to reliability scores of the Social factors from the designed research model, aspect explained via our investigated sample's characteristics.

In terms of implications, our research sheds light on critical factors in HRD public projects and contributes to the current specific literature since it shows that there is a significant impact, albeit often negative, of external environment's factors and project implementation which ultimately should lead to project success. Also, as a practical implication, our study identifies the main factors that should be improved by policy decision making bodies in order to ensure a positive evolution of a HRD project (table 4).

Table 4: External environment factors' impact ranking

Negative impact factors		Positive impact factors	
1	The complexity of the projects implementation' legal framework	1	The partners' logistic capacity to support the project
2	Self-financing capacity of projects al the governmental level	2	Stakeholders' attitude towards the possibility of completion of the project
3	Corruption in the institutions responsible of project implementation	3	The universities' perception within the economic and social environment and the community

The limitations of our research arise from the relatively modest sample investigated, which might generate a low capacity to generalize the results but also from not taking into account project success measures.

Thus, our study opened opportunities for further research, such as analyzing the correlation between the factors identified and specific project success measures for HRD projects, widening the population investigated by including HRD projects' targeted group and their perception of the factor's impact and even determining the factor's importance according to project lifecycle.

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