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## **Project Management Capability – Differentiator of Organizational Change Success**

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### **Abstract**

Organizational change has become a permanent process in the worldwide daily reality, sparked by the necessity to adjust to economic environment or to take profit of it.

This paper aims to present a few conclusions of a study on the project management capabilities of Romanian organizations that experienced organizational changes in the last 2 years prior to the study.

Many researchers analyzed the organizational processes that lead to successful finalization of projects while some procedural standards were established by professional organizations in the field of project management. Starting from their work, our effort is based on the hypothesis that the organizational capability to implement successful changes is the organizational project management capability, which is a second-order multidimensional construct that can be evaluated through four latent reflective variables: (1) planning capability, (2) organizing capability, (3) implementing capability and (4) monitoring / control capability.

The investigation is built on by using second order structural equation modelling (SEM) technique applied through SmartPLS software. This technique exposed the relations between the project management and components such as planning, organizing, implementing and control capabilities as prerequisites of the organizational change success.

The data for this study was gathered from executives who had comprehensive knowledge about the results of organizational change initiative within Romanian companies.

Through its results, our research highlights the project-management related capabilities that are important for organizations pursuing a change attempt. It identified that Control Capability is the most relevant capability necessary for change success in Romanian companies pursuing change, followed by the Implementing Capability. The results of our research create the ground for a more effective approach of future organizational changes.

**Keywords:** organizational change, project management, planning capability, organizing capability, implementing capability, monitoring capability.

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### **Introduction**

There are more than twelve months since the whole world has come under siege. SARS-Cov 2 virus led to the arousing of many barriers and created shocks to economies, generating rough situations for

businessmen, entrepreneurs and employees. More than anything else, it is responsible for the shaping of new economic and organizational realities.

In their hunt to survive and be competitive, organizations have been required over time to shift from a familiar, regular situation, to a different, new environment adapted.

Crises continuously occur in every organization, triggered by various factors, so the organizational capacity ability to transform, to uphold competitiveness, has become extremely necessary. Therefore, organizational capacity to implement change has become an important feature of organizations.

A number of authors analyzed organizational changes as projects, thus associating them with the specific characteristics of project management. This approach provides an outlook of the procedural and process aspects of resolving the challenges of change, while recommending the maintenance of short-term operational Capability and its long-term expansion.

Reaching a predetermined level of outcomes and the way to achieve the desired situations are usually planned elements, so the organizational capacity to establish plans and implement them becomes a key success factor for any improvement effort.

The project management capabilities portray this perspective that strengthens the procedural aspects included in the change programs, supported by structured and successive activities.

Organizational change initiatives are often described as projects or programs, with change management referring to the use of project management skills, tools, and techniques (Crawford and Nahmias, 2010).

A promoter of the project management approach, Rosembaum, et al. (2018), emphasizes the work of Peters and Waterman (1982), Bullock and Batten (1985), Beckhard and Harris (1987), Kotter (1996), Taffinder (1998) that proposed frameworks that support the organizational analysis and help the increase of its efficiency. The work in this field have also been refined into various tools and techniques by Project Management Institute (PMI) and the Association of Professionals in Change Management (ACMP).

The purpose of this paper is to identify a model of Project management capabilities specific to Romanian companies that were involved in implemented a change.

Our research briefly highlights some specific routines of project management, characteristic of a successful organizational change.

The paper comes up to propose a model for analyzing and stimulating the development of the organizational change effectiveness. The hypotheses tested during the research were studied based on primary data obtained through a questionnaire-based survey and a newly developed statistical software (SmartPLS 3.3.3).

### **Project management and organizational change**

The project is an organizational form of response to environmental change, and Söderlund (2010) pointed out that an increasing number of projects in the business environment include elements of change.

Project management is the “disciplined application of knowledge, skills, tools and techniques to project activities to meet the project requirements” (Project Management Institute, 2013).

Organizations that promote the development of project management field claimed for a certification of competence for professionals. Even though the existence of a certification of project management competence might be beneficial for individuals – as recognition of a profession, the organizational project management capability is determined by the way the activities are orchestrated within to determine the goal achievement.

Approaching change through the project management concept can become an organizational routine within specific contexts. The approach can be effective in a relatively stable environment, but as the environment becomes more turbulent, the organizational risks of rigidity increase dramatically: tasks can become inappropriate in the new context and the organization is unable to identify how they need

to be changed. Through its dynamics, organizational change involves more than joining a technical process. Effective change management and leadership significantly influence the success of implementing organizational initiatives (Gilley, et al., 2008).

Recent studies have emphasized that project management is critical to the success of a project (Blomquist, et al., 2016; Musawir, et al., 2017) and that the integration of project management with organizational change management has become a necessity (Hornstein, 2015).

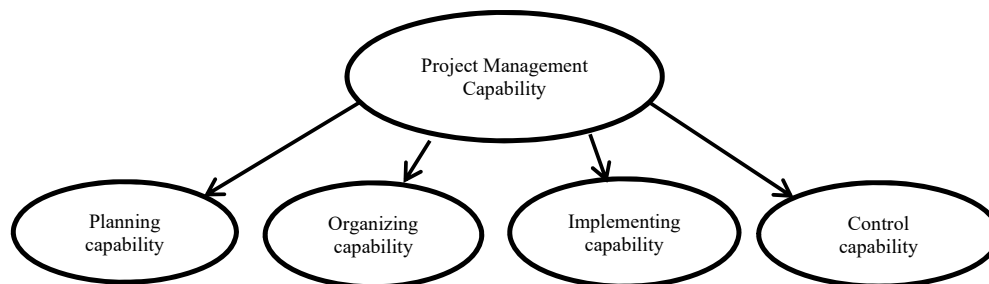
Many individual competencies for project management were identified by Omar and Fayek (2016) who divided them into functional and behavioral competencies. Also, Danneels (2002), highlighted two types of skills needed for innovative projects: “functional skills” and “integrative skills”, while Hanna, et al. (2016) modelled the importance of different competencies for project management.

Various perspectives on the organizational change and project management have been analyzed by researchers. Griffith-Cooper and King (2007) claimed that “the nature of project management is change”, while Stanley (2016) highlighted the way project management has supported change in the medical field.

Crawford and Hassner-Nahmias (2010) emphasized the growing interest for using projects as a way to make changes in organizations while Parker et al. (2013) suggested that it is imperative for organizations to use project-based initiatives as levers for organizational change.

However, we believe that the literature feels the need for in-depth research to highlight how organizational project management skills and routines contribute to the successful implementation of organizational change. Moreover, we have not yet identified studies to evaluate a model (of the components) of an organizational project management capability and its’ effects on the success of an organizational change.

Therefore, we consider that there is a field of research on the relationships between project management capability of organizations and their successful change initiatives, after a previous identification of capabilities model.



**Figure no. 1. The Second-order structural model of the Project management capability of the Romanian organizations pursuing change**

*Source: Authors' proposal*

Under these conditions, this paper is an attempt to analyze the project management multidimensional construct and to establish a model of project management capability of organization in change.

### Research methodology

Based on the theoretical and practical literature, some routines have been selected to analyze the Project Management Capability of organizations that pursue change.

For the Planning capability our research focus on organizational routines that allow defining necessity and purpose, defining objectives, identifying the necessary activities, defining the evaluation criteria, establishing the necessary resources, activity planning.

The organizing capability was studied through routines that are specific to setting up the implementation team, setting tasks, scheduling activities, defining the limits of competence, establishing a resource allocation plan and training team members.

In the present research the implementing capability is reflected by the organizational routine that support the efficient management of activities, involvement of the implementation team members, performing individual tasks, and fulfillment of the assumed obligations.

Control capability is reflected by the use of monitoring / control tools, periodic performance measurement, checking the allocation in the allocated budget, schedule monitoring and periodic review of plans.

The research methodology is similar to that one used by one of the authors in previous works (Voica, 2016; Voica, 2017). The data was collected by means of an on-line questionnaire, which was advertised in the management field environment in Romania. All variables are based on Likert-type scales with five intervals. Non-response bias was prevented through questionnaire that accepted only full-completed responses. The respondents included change executives, managers and consultants that were directly involved in change and had extensive knowledge about the (processes and results of) organizational change initiative within Romanian organizations.

The data analysis was carried out with help of descriptive and inferential statistics using SPSS 20 as support for factor analysis (principal components analysis- PCA and exploratory factor analysis - EFA) and SmartPLS 3.3.3 for Structural Equation Modelling (SEM) analysis.

As many scholars highlighted, the structural equation modelling (SEM) technique has some advantages over traditional multivariate techniques, such as the explicit assessment of measurement error, the estimation of latent –unobserved - variables via observed variables or the easiness of model testing when a structure is imposed (Henseler et al., 2016). Moreover, the partial least square approach to SEM (SEM-PLS) provide greater flexibility in developing and validating complex models. Therefore we decided to further analyze the data through SmartPLS 3.3.3, a partial least squares structural equation modeling software that allows researchers to make user-friendly assessments of inter-construct relationships as well as to identify relationships among constructs and their respective indicators.

There are some limits of the results of the present endeavours, in terms of focus of analysis and of data available for it. The model is based on routines that are also typical to the organizational dynamism and this element can affect the number of items that characterizes each first-order construct of *Project Management Capability*. In addition, data was gathered using online survey, thus limiting the number of respondents due to technical resources (internet connection, digital competences) and also in terms of ensuring statistical representativeness, as a low number of responses / the sample size might influence the statistical validity of the results, even though the answers may be considered as representative for our work.

## Results and discussion

A total number of 137 usable responses were obtained as result of various messages sent through e-mail. Table 1 shows the profile of the analyzed organizations. These analyzed changes took place in 75 (54,8%) private companies (of which 46 companies (33,6%) with predominantly Romanian capital and 29 companies (21,2%) with predominantly foreign capital), 32 public institutions or in which the Romanian state was the sole shareholder (23,3%), 23 multinationals (16,8%), 6 NGOs (4,4%) and a state-owned, self-financing autonomous organization (0,7%).

The change was described by study participants in terms of the level of planning, the number of stages in which it was carried out, its continuity, the speed of implementation, and the completion interval, as exhibited in the Table 1.

**Table no. 1. Characteristics of the analyzed changes. (% of total answers)**

1	2	3	4	5	6	7	8	9	10		
<b>Completely unplanned</b>	2.92	2.92	3.65	3.65	5.84	5.84	10.95	29.93	17.52	16.79	<b>Full-planned, in detail</b>
<b>Implemented in many small phases</b>	8.03	3.65	12.41	8.03	15.33	10.22	12.41	8.03	13.14	8.76	<b>Implemented in one important phase</b>
<b>Continuous</b>	18.98	10.95	8.03	8.76	17.52	7.30	8.03	13.87	3.65	2.92	<b>Discontinuous. sudden</b>
<b>Slow</b>	3.65	4.38	7.30	8.76	16.06	10.95	17.52	16.79	8.03	6.57	<b>Fast</b>
<b>Completed in a long range of time</b>	4.38	5.11	15.33	5.11	16.79	13.87	13.14	13.87	6.57	5.84	<b>Completed in a very short period</b>

In the first stage, the analysis aimed to extract four factors that characterizes the project management-related routines / capabilities (first order reflective constructs) of organizations in change.

A number of items were estimated for each dimension. Each component extracted has an eigenvalue (total amount of variance explained) higher than 1 and is reflected by 3 or 4 items (organizational practices). Table 2 presents the Project Management unequivocal items whose loading on the specific reflective sub-scale exceeds the threshold value proposed by Chin (1998).

We observe that *Planning capability* is reflected by routines such as *clear definition of the need and purpose of change* (PM\_P\_1 – factor loading 0,840), *clear definition of the desired results and their specifications* (PM\_P\_2 – factor loading 0,845), *identification of the activities necessary to achieve the objectives* (PM\_P\_3 – factor loading 0,811).

The *Organizing capability* is manifested through practices such as *setting-up of the change implementation team* (PM\_O\_1 - factor loading 0,821), *individual task allocation and scheduling* (PM\_O\_2 - factor loading 0,729), or *establishment of team members' competency limits* (PM\_O\_3 - factor loading 0,803).

The *Implementing capability* was exposed via practices such as *team members got involved in the implementation activities* (PM\_I\_2 - factor loading of 0,882), *individual tasks were performed as originally planned* (PM\_I\_3 - factor loading of 0,767) and *all obligations of the implementation team members were fulfilled* (PM\_I\_4 - factor loading of 0,821).

The *Control capability* is revealed by routines such as *monitoring the level and quality of the results' achievement* (PM\_C\_2- factor loading of 0,828), *monitoring the fit into the budget* (PM\_C\_4- factor loading of 0,732), *monitoring the time frame and the fit in the implementation schedule* (PM\_C\_5- factor loading of 0,806) and *periodic review of the implementation plans* (PM\_C\_6- factor loading of 0,725).

The Cronbach's Alpha index has values higher than 0.8 for each of the subscales, which is in line with the recommendations of Nunally (1978) and, together with the CR index, shows the internal consistency of each construct.

AVE is a strict measure of convergent validity, more conservative than CR and allow the proper analysis even if the variance is determined by errors. The average variance extracted has values above the threshold of 0.5 recommended by Fornell and Larcker (1981), for each of the subscales analyzed. Consequently, we can talk about the convergent validity of each one of the constructs.

**Table no. 2. Outer Loadings on *Project Management Capability* first-order constructs**

		Convergent Validity			Internal consistency			
		Loadings	Indicator reliability	AVE	Composite Reliability	Cronbach's alpha	R <sup>2</sup>	R <sup>2</sup> adj.
Standards		>0.7	>0.5	>0.5	0.6 - 0.9	0.6 - 0.9		
1.Planning capability	PM_P_1	0.840	0.706	0.692	0.871	0.870	0.695	0.693
	PM_P_2	0.845	0.714					
	PM_P_3	0.811	0.658					
2.Organizing capability	PM_O_1	0.821	0.674	0.669	0.858	0.858	0.794	0.793
	PM_O_2	0.829	0.687					
	PM_O_3	0.803	0.645					
3.Implementing capability	PM_I_2	0.882	0.778	0.680	0.864	0.864	0.904	0.903
	PM_I_3	0.767	0.588					
	PM_I_4	0.821	0.674					
4.Control capability	PM_C_2	0.828	0.686	0.599	0.856	0.857	0.846	0.845
	PM_C_4	0.732	0.536					
	PM_C_5	0.806	0.650					
	PM_C_6	0.725	0.526					

Source: Authors' processing of the SmartPLS 3.3.3 reports.

As presented in Table 3 all the correlations between the analyzed subscales are below 0.7, so we can conclude that there are no significant correlations between them. However, as can be observed, there is a correlation higher than 0.7 between each of the four latent variables and the second order construct *Project management capability* showing that they represent sub-scales of this higher order construct.

The discriminative validity of the 4 subscales was first tested using the Fornell-Larcker criterion. As can be observed in Table 3, the square root of the average extracted variance (AVE) of each construct is greater than the highest correlation of the latent variable with any other construct, which confirms the discriminatory validity of the model components.

In addition, the results of the HTMT (Heterotrait Monotrait Ratio) analysis proposed by Henseler et al. (2015) show in Table no. 3 that all HTMT values of the correlations between each one of the 4 constructs underlying the latent variable *Project Management Capability* are below 0.85 (Hair et al., 2017). Therefore we can consider that there is discriminatory validity between the 4 subscales of the construct. Also, the HTMT index between the *Project Management Capability* and each of the analyzed constructs exceeds the threshold value of 0.85 (or close to this level for the *Planning Capability*). Therefore the *Project Management Capability* can be validated as a higher order construct, consisting of the 4 sub-scales *Planning capability*. *Organizing capability*. *Implementing capability* and *Control capability*.

**Table no. 3. Analysis for discriminant validity of the *Project Management Capability* components**

	Latent Variable Correlations				Fornell-Larcker criterion for sub-scale analysis				The HTMT analysis of the sub-scales			
	1.Planning capability	2.Organizing capability	3.Implementing capability	4.Control capability	1.Planning capability	2.Organizing capability	3.Implementing capability	4.Control capability	1.Planning capability	2.Organizing capability	3.Implementing capability	4.Control capability
1.Planning capability	1.000	0.599	0.605	0.464	<u>0.832</u>							
2.Organizing capability	0.599	1.000	0.622	0.588	0.599	<u>0.818</u>			0.599			
3.Implementing capability	0.605	0.622	1.000	0.723	0.605	0.622	<u>0.825</u>		0.604	0.622		
4.Control capability	0.464	0.588	0.723	1.000	0.464	0.588	0.723	<u>0.774</u>	0.464	0.587	0.723	
<b>Project Management Capability</b>	<b>0.834</b>	<b>0.891</b>	<b>0.951</b>	<b>0.920</b>	<b>0.834</b>	<b>0.891</b>	<b>0.951</b>	<b>0.920</b>	<b>0.841*</b>	<b>0.892</b>	<b>0.941</b>	<b>0.926</b>

Source: Authors' processing of the SmartPLS 3.3.3 reports

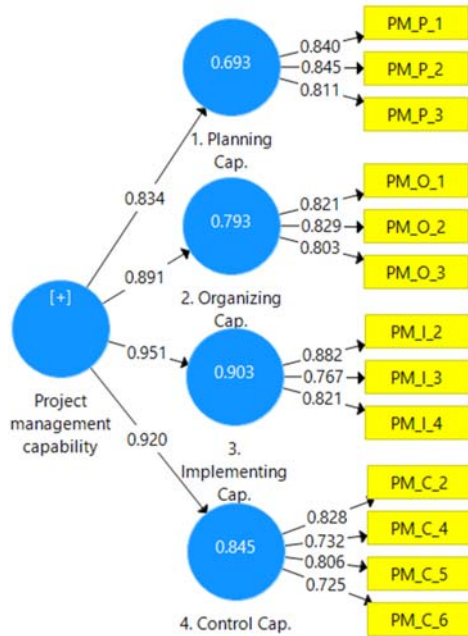
For the second stage of the analysis in SmartPLS we identified the path coefficients between each reflective sub-scale and the second-order construct *Project management capability* as well as their significance. The Consistent PLS analysis revealed the path coefficients of the second-order construct *Project management capability* while the PLS Bootstrapping Consistent Algorithm provided their significance (see Figure 2 and Figure 3).

**Table no. 4. Path coefficients of the second-order construct *Project management capability***

	Coeff.	STDEV	t-Stat	P-Value	2.5%	97.5%
1.Planning capability	0.834	0.052	16.130	0.000	0.709	0.916
2.Organizing capability	0.891	0.045	19.827	0.000	0.775	0.958
3.Implementing capability	0.951	0.026	36.620	0.000	0.891	0.993
4.Control capability	0.920	0.032	28.511	0.000	0.845	0.976

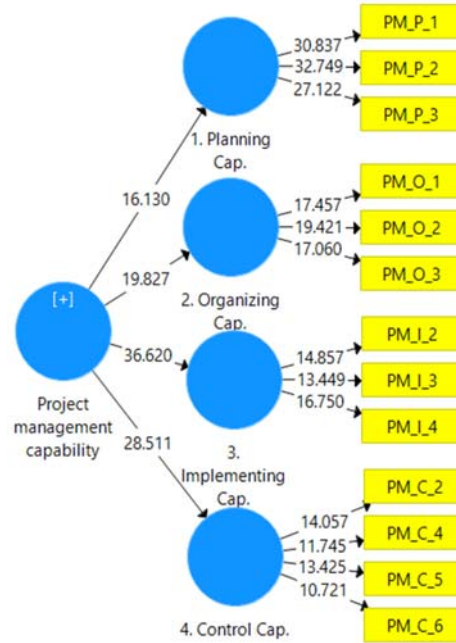
Source: SmartPLS output: PLSc Algorithm reports

The coefficients in Table 4 show that each indicator of the outer model of *Project Management Capability* has statistical significant weight. The table reveals also the bias-corrected confidence intervals obtained through the bootstrapping procedure.



**Figure no. 2. Path coefficients of the Project management capability of the Romanian organizations pursuing change**

Source: SmartPLS output: PLS Algorithm report for path coefficients



**Figure no. 3. Significance of the path coefficients of the Project management capability of the Romanian organizations pursuing change.**

Source: SmartPLS output: PLS Bootstrapping Consistent Algorithm report for significance of coefficients (t-values)

Figure no 2 and Figure no 3 graphically illustrates the path coefficients and the significance of each of the path coefficients of the Project management capability of the Romanian organizations pursuing change.

### Conclusions

As long as organizational change initiatives are often described as projects or programs (Crawford and Nahmias, 2010). Our research endeavor aimed to identify the operational routines of Romanian companies that implemented a change that can be specific to a second-order model of Project management capability.

More than 80% of the Romanian change initiatives analyzed in our research were performed under a certain degree of planning and this observation highlight the importance of our work for further endeavors for organizational change.

For Romanian companies that pursue changes, planning is important and the most relevant practices for the *Planning capability* are routines such as *clear definition of the need and purpose of change*, *clear definition of the desired results and their specifications* and *identification of the activities necessary to achieve the objectives*.

Even if a change is well planned, the ability to transform the plans into realities become more relevant and the capability to *create the change implementation team*, to *allocate and schedule individual tasks*. or to *set-up competency limits* reflect the *Organizing capability* of an organization.

During the implementation stage *team members' involvement*, *performing the tasks as scheduled* and *fulfillment of all obligations* are practices that reveal a proper *Implementation Capability*

*Monitoring the level and quality of the results*, *the fit into the budget*, *the fit into the implementation schedule* and *periodic review of the implementation plans* proved to be the routines that secure a high level of *Control capability*.

Our endeavor graphically illustrates the path coefficients and the significance of each of the path coefficients of the Project management capability of the Romanian organizations pursuing change. It identified that for Romanian companies pursuing change the most relevant capability that is necessary for change success is the *Control Capability* followed by the *Implementing Capability*. This conclusion is in line with the observation that the environment is continuously changing and the plans can be outdated / overcome at the implementation moment. This observation emphasizes the importance of the organizational



agility and of the development of dynamic capabilities. This might be a very important direction for further studies in the field of management. In addition, our model can be used for further analysis of the differences between the proactive and reactive organizations.

The outputs of our research are restricted by elements such as the limited number of respondents or the belongingness of a routine to various constructs (so it cannot be characteristic to only one construct).

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