Journal of Rural Development, Vol. 37 No. (4) pp. 679-696
NIRDPR, Hyderabad.

KEY SUCCESS FACTORS IN MANAGING BASIC INFRASTRUCTURE PROJECTS OF RURAL DEVELOPMENT COMMUNAL PLANS IN MOROCCO

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ABSTRACT

This paper aims at proposing a model explaining the success in managing basic infrastructure projects[1] belonging to Rural Development Communal Plans (RDCP)[2] of Taroudant province (South of Morocco). It is based on a hypothetical-deductive reasoning emerging from a theoretical model tested by two empirical surveys. The first one is qualitative; it has exploratory purposes of research of this study and aims at contextualising the model. As for the second, it is quantitative with confirmatory goals and concerns 220 projects (55 municipalities). Results revealed the key success factors for both project design-planning and project implementation phases. It should be noted that this research has its limitations. The first limitation is linked to the external validity of the results, as it is difficult to generalise these results. The second is related to the methodological limitation relevant to the data restricted to the perception of the administrative staff of the municipality. The main originality of this paper consists of: first, the research question related to the area of the management project in the local context is undertaken for the first time in the context of developing countries; second, the adoption of the methodology approach combines qualitative and quantitative methods to identify the key success factors.

Keywords: Key Success Factor, Local Development, Project Management, Basic Infrastructure, Project Success, Rural Development.

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Introduction

The development of the marginalised areas[3] is a major issue worldwide. These areas are unable to maintain the development process compared with other favourable areas (Colletis-Wahl et al., 2008). Nowadays, revitalisation of these areas represents one of the major issues of developing countries. For this purpose, the implementation of a specific development approach based on endogenous culture is required. The local scale appears as a relevant space to effect transformations that can trigger profound changes (Grindle, 2007).

Since Independence, the Moroccan government has undertaken a huge programme of economic and institutional reforms. Policies implemented through various sectoral integrated programmes have certainly helped develop the infrastructure of many rural areas. However, these policies could not be generalised to all areas, especially those that are most disadvantaged. They contain enormous potential as a basis for real economic and social take-off. Furthermore, many experiences have shown that projects implemented in these action programmes partly failed because they encountered managerial problems (Sauser et al., 2009). Belassi and Tukel (1996) noted that the high failure rate of development projects is mainly due to the managerial problems. This is even true of some international aid agencies such as CAID and GIZ that have published several manuals and guidelines on Key Success Factors (KSF) that create a favourable climate for project success. Despite the abundant literature on the subject, limited researches have focused on the KSF in development project management (Diallo and Thuillier, 2005).

The limited number of the empirical studies related to KSF rural development project management in the Moroccan context is the main motivation behind this study. We aim through the adopted theoretical and methodological choices to develop an explanatory model to project management success of basic infrastructure of a rural province in the south of Morocco called Taroudant. We will try to answer the followings question: What are the factors explaining the project management success of the rural development of basic infrastructure in Taroudant province? We will seek to identify elements to better conduct a project, and then determine the combined effects of these factors in eventually leading to project management success.

Literature Review and Hypothesis

To develop an explanatory model for successful management of basic infrastructure projects in the province of Taroudant, we adopt: local community development approach, based on resources and the stakeholders' theory.

The Local Community Development Approach: Local development has become a worldwide recognised concept. Among researchers and development agencies, it has several conceptions that generated multiple approaches (Conti and Giaccaria, 2013). Two approaches are distinguished: (1) approach of local economic development and (2) approach of community local development. The latter

focuses on a holistic and social vision of development, based on solidarity and initiatives taking place locally. This development approach was adopted in 1960 by the local authorities and associations to struggle against poverty. It emanates from social practices claiming the integration of local energy sources in the decisions that affect the future of their community. It is based on a development initiated by and with communities and not for communities. Moreover, local community development advocates a comprehensive vision of development that takes into account the socio-economic, cultural, political and ecological contexts.

The Stakeholder Theory Adapted for Local Development: The relevance of stakeholder theory is undeniable in the local development approach[4]. It provides insights into the peculiarities of the local territory (values, interests, concerns, etc.). Its development requires cooperation between different actors inside. Projects developed by these actors reflect the affirmation of a negotiated and shared ambition based on a collective forward thinking that puts into perspective and synergy the stakeholders' activity (Hermano et al., 2012).

Local community remains a classic reference of the stakeholder theory. It operates in an environment where it finds a multitude of stakeholders likely to be affected by the consequences of the decision or influence the decision-making situation. The need to ensure the actors' cohesion and their commitment over a territory becomes a basis for any local development approach. The manner to approach the future of a territory entails the need to identify its stakeholders to analyse their needs and determine how they can be met.

The Resource Theory: An Analytical Framework for Local Development: In the globalisation context, comparative advantages are no longer based only on material natural resources. They also increasingly integrate the immaterial ones (skills, expertise, etc.). Nations and enterprises have to base their competitive advantage on their intangible resources and on their actors' ability to develop synergies (Maillat and Kebir, 2011). In fact, the resources' theory, in which the tangible and intangible resources provide a sustainable competitive advantage for the company, has its place in the local development approach (Harisson et al., 2010).

This development considers the territory as a resource recovery space by an endogenous logic that allows establishment of a territorial dynamic closely linked to its own resources. Local specificities that characterise the territory reveal its factors of competitiveness and attractiveness (Allias et al., 2015).

Resources are based on development strategy; they are neither transferable nor repeatable. Based on Pecqueur's approach (2014) towards local resources, we suggest that the resource theory could be relevant in explaining the relative dimensions of the explanatory factors of local development, based on a territorial approach.

Moreover, each project is undertaken and managed in its own environment with an appropriate method of management, involving several actors with efforts and resources that must be coordinated and managed effectively. Also, the process engaged in the management of the development project is often exposed to operational difficulties. This situation raises many questions about the necessary conditions for the project's successful implementation.

In this perspective, we are interested in projects from communal development plans that fall within the basic infrastructure sector. Our ambition is to identify factors explaining the success in managing the local development project of basic infrastructure in the province of Taroudant.

To attain this ambition, a number of factors have been identified from the literature review and strengthened by the results of the qualitative study. These factors are gathered into five groups and helped to develop a conceptual research model (Figure 1) covering different aspects of our problem: (1) factors related to the project manager, (2) factors related to the project team, (3) factors related to the organisation, (4) factors related to the project and (5)factors related to external environment.

As shown in Figure 1, the conceptual research model consists of seven variables. Two dependent variables corresponding to the success of design-planning phase and the success of the implementation phase and five independent variables corresponding to the groups of factors mentioned above. We investigate how all these factors affect the project management success in local development of basic infrastructure through its two major phases of design planning and execution.

Methodology

In this research, we followed the logic of hypothetical-deductive reasoning. We have

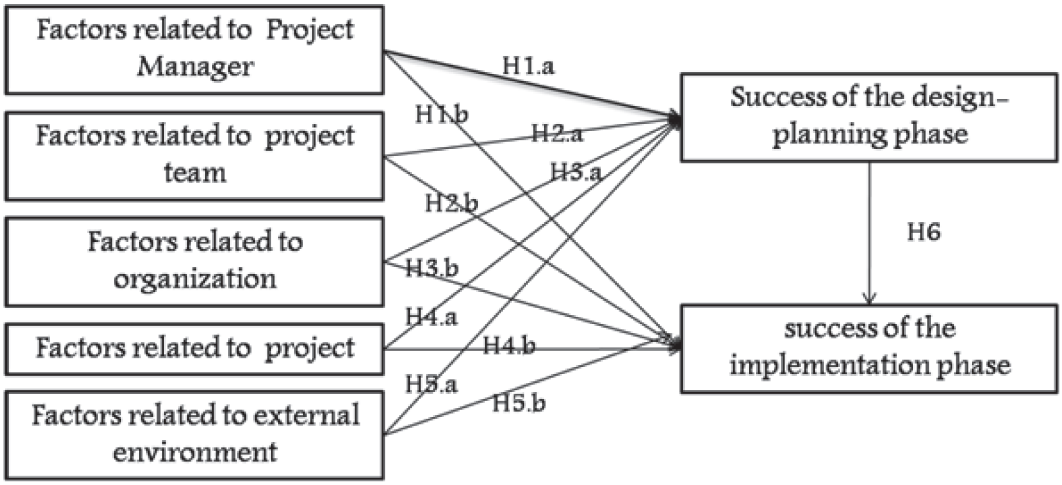

Figure 1: Conceptual Research Model

opted for a mixed approach combining the qualitative and the quantitative processes sequentially. The combination of these two approaches seemed to us particularly relevant insofar as it allowed us to enrich and refine our understanding of the object under study. For this purpose, a qualitative exploratory study was deemed appropriate to be applied first. We began by conducting nine semi-structured interviews with local actors in the province of Taroudant in the southern region of Morocco. We then followed it by a confirmatory quantitative study in order to test our research model and its hypotheses. Because our study is comprehensive, moreover targets the entire mother population wich consists of 220 local infrastructure development projects, we used the questionnaire method to collect our data. The final conceptual research model consists of 11 hypotheses linking different variables.

Population and Data Collection Method: The survey is concerned with basic infrastructure projects selected within Development Communal Plans (DCP) of Taroudant province during the period 2011-2013. The selection of these projects is justified by the large number of achievements that represent over 50 per cent of all projects implemented. In terms of data collection, we opted for the face-to-face method to administer the questionnaire. This administration lasted for nine months from September-2013 to May-2014, with 220 actors (administrative, elected officials, associations and cooperatives). Respondents are especially persons involved in the implementation project process.

Operationalising Variables : The conceptual part of our research model has been built around the requirements stipulated notably by Churchill's paradigm for better measures (1979). Indeed, to develop the scales of measurement of our variables, we relied on the research works available in the literature. These scales were reinforced by the results of the exploratory study we conducted, particularly with respect to our explanatory variables (factors related to the project manager and the project team, organisational factors, factors related to the project and factors related to the external environment). For some variables, we adopted the measurement scales as proposed in the literature without applying any modifications. For other variables, we have adapted them to our context to make them more understandable and easy to read.

Table 1 presents variables of the conceptual research model, their items and their references.

Analysis of Data: For the analysis of the results, the content analysis was chosen as a technique for analysing the qualitative data collected. Quantitative data have been analysed in two parts. An exploratory factor analysis is applied first using the SPSS software (version 19.0). The purpose of this analysis is to ensure the validity and reliability of the different scales of measurement used. Then, a confirmatory factor

Table 1: Key Success Factors in Project Management Development Ranging from the Literature Review to the Results of the Qualitative Study

Factors	Items
Factors related to project manager	Needs definition (DGCL [5], 2008) Defining strategic vision (DGCL, 2008) Interpersonal skills (Simard, 2008) Administrative skills (Khang & Moe, 2008) Technical knowledge (Khang & Moe, 2008) Engagement manager (Khang & Moe, 2008)
Explicative variables (14 items)	Layout a strategic vision, desire to succeed in the project, patience, ability to manage the multitude of donors, perfect knowledge of the project, sense of conviction, negotiating capacity, availability (exploratory talks)
Factors related to the team project	Administrative skills (Khang & Moe, 2008) Technical knowledge (Khang & Moe, 2008) Motivation (Muriithi & Crawford, 2002) Communication (Muriithi & Crawford, 2002)
Explicative variables (9 items)	Polyvalence, previous experience, having a strategic vision, synergy, project knowledge (exploratory talks) Stakeholders' participation (DGCL, 2008) External expertise (Khang & Moe, 2008) Detailed planning (Khang & Moe, 2008) Identify and analyse Stakeholders (DGCL, 2008)
Factors related to organisation	Convergence of interests (Khang & Moe, 2008) Respect procedures (Khang & Moe, 2008) Mobilise financial and human resources (DGCL, 2008; Khang & Moe, 2008) Support from institutional structures (DGCL, 2008) Decision-making structure (Simard, 2008) Organisational structure (Simard, 2008) Interactive communication (DGCL, 2008) Shared responsabilities (DGCL, 2008)
Explicative variables (20 items)	Gender approach (DGCL, 2008) Enhancement of local actors' capacities (DGCL, 2008) Monitoring dashboard (DGCL, 2008) transparent management, risk management, consistency in how to do, flexibility of administrative procedures, constitution of a monitoring steering committee (exploratory interviews)
Factors related to project	Institutional and organisational framework (DGCL, 2008) Stakeholders' support (DGCL, 2008; Khang & Moe, 2008) Local actors' appropriation (DGCL, 2008) Project adaptation to the needs of beneficiaries, rigorous monitoring of project implementation phases, absence of political considerations, study priori impact, good local governance, innovation, partners' integration

Table 1 *(Contd.....)*

Factors	Items
Explanatory variables (10 items)	(Exploratory interviews) administrative and financial support (Khang & Moe, 2008)
Factors related to external environment project explanatory variables (8 items)	Environment knowledge (Khang & Moe, 2008) Trust (Simard, 2008) Project approval (DGCL, 2008) Integration of the project within the strategic development orientations (DGCL, 2008) Donors' commitment (DGCL, 2008) Good economic conditions, success of a similar project in other neighbouring local areas (exploratory interviews)
Design-planning phase success Dependent variable (6 items)	Beneficiaries' needs are identified and defined (Khang & Moe, 2008) Need for external expertise is clearly identified and defined (Khang & Moe, 2008) The project is part of the strategic development orientations (Khang & Moe, 2008) The project was approved and had the commitment of all stakeholders (Khang & Moe, 2008) Resources required for the project are available and mobilised (Khang & Moe, 2008 Organisational structures have the necessary skills (Khang & Moe, 2008)
Implementation & phase success Dependant variables (5 items)	Mobilised resources are used as intended (Khang & Moe, 2008) All project activities were conducted as planned (Khang & Moe, 2008) Results obtained are in accordance with the defined specifications (Khang & Moe, 2008) Resources were used rationally (Khang & Moe, 2008) Stakeholders are informed and satisfied with the project's progress (Khang & Moe, 2008)

analysis is conducted by opting for the structural equations method using the Smart PLS M3 version 2.0 software.The objective is to test the relationships between the different latent variables introduced in the search model.

Results

Statistical Tools of the Empirical Analysis: Data analysis was performed in two steps, an exploratory factor analysis SPSS software (version 19.0) and a confirmatory factor analysis conducted by the structural equation method using the software - Smart PLS M3, version 2.0.

Exploratory Analysis : An exploratory factor analysis is conducted for each variable of our model using the Principal Component Analysis (PCA) method. All items were subject to a number of criteria that must be evaluated following factorability, dimensionality, item structuration and reliability. Results indicated that for all variables, the KMO index is satisfactory and Bartlett's test of sphericity is significant.

Results revealed scale dimensionality, except for the variables 'factors related to organisation' and 'factors related to project'. The structure of the variable 'factors related to organisation' is three-dimensional. As for the one of 'factors related to project', it is bi-dimensional. Regarding the items' structuring, all items showed a high commonality (more than 0.50) and satisfactory factorial weight. Based on results of the exploratory analysis, six items were eliminated.

Confirmatory Phase: Confirmatory factor analysis is conducted by adopting the structural equation analysis PLS. Assessment of the empirical model adjustment was performed in two stages: (1) assessment of the measurement model and (2) evaluation of the structural model.

Assessment of the Measurement Model: The measurement model combines both reflective and formative variables. Its validity could be evaluated by different methods (Hair et al., 2012b).

Validity and Reliability of Reflexive Constructs : In order to assess the reflexive measurement model, we used three main criteria: (1) composite reliability (2) convergent validity and (3) discriminant validity.

a) ***Reliability of the Reflexive Model :*** The model reliability is assessed by the Composite Reliability (CR) value for the reflexive latent variables. The acceptability threshold for this value is set when the CR value is greater than 0.7. Results show that each reflexive latent variable displays CR value greater than 0.7. The latter ranged between 0.8927 and 0.9271 (Table 2), hence the reflexive measurement model justifies a very high internal consistency.

b) ***Construct Validity :*** Construct validity was performed by assessing the convergent and the discriminant validity (Hair et al., 2012b).

- ***Convergent Validity:*** Convergent validity of the reflexive model is evaluated by examining the factor significance contribution of each item to the construct. Moreover, it is performed by Average Variance Extracted (AVE) value. Results indicate that all the reflexive model variables have the factors' loading above the threshold recommended 0.7 (Table 2). Also, the latent variables showed an AVE greater than 0.50. This means that variances of the reflexive constructs are explained up to 50 per cent, and then confirm their convergent validity.

Discriminant Validity: Discriminant validity was evaluated by comparing the AVE square root for each latent

Table 2: Reliability and Convergent Validity of the Reflexive Model

Latent variable		AVE	CR
Factors related to project manager		0,6145	0,9271
Factors related to team project		0,6249	0,9208
Factors related to organisation	FO1	0,7006	0,9211
	FO2	0,6478	0,9018
	FO3	0,7672	0,9080
Factors related to project	FP1	0,6734	0,9114
	FP2	0,6253	0,8928
Factors related to external environment		0,5815	0,8927
Success of the design-planning phase		0,6396	0,9141
Success of the executing phase		0,8340	0,9617

variable with the correlation square between latent variables. It is considered whenever AVE of each latent variable exceeds the correlation square between this variable and the other latent variables in the model. Table 3 shows that square roots of the diagonal AVE of each construct are greater than the correlations between the different constructs outside diagonals. We conclude that conditions required for the discriminant validity of all reflexive constructs of the model are met.

Validity and Reliability of the Formative Constructs: In the case of our multi-dimensional measurement model (factors related to the organisation and factors related to the project), its variables are designed as latent variables of

Table 3: Descriminant Validity - Measured by Average Extracted Variance (AVE) Square

AVE		F1	F2	F3.1	F3.2	F3.3	F4.1	F4.2	F5	F6	F7
0,614	F1	**0,783***									
0,624	F2	0,809[6]	**0,790***								
0,700	F3.1	0,753	0,695	**0,837***							
0,647	F3.2	0,531	0,642	0,545	**0,804***						
0,767	F3.3	0,796	0,739	0,645	0,527	**0,875***					
0,673	F4.1	0,779	0,697	0,774	0,617	0,672	**0,820***				
0,625	F4.2	0,468	0,569	0,534	0,738	0,461	0,618	**0,790***			
0,581	F5	0,629	0,7220	0,6238	0,7007	0,6324	0,6628	0,6793	**0,762***		
0,639	F6	0,619	0,714	0,582	0,707	0,606	0,710	0,639	0,717	**0,799***	
0,834	F7	0,447	0,589	0,502	0,591	0,465	0,494	0,531	0,688	0,778	**0,913***

the second order with reflexive constructs as indicators of the first order. These models are modelled in a reflexive-formative sense. We mobilised the repeated indicators approach that considers the indicators (items) measuring constructs of the first order (reflective mode) as indicators of the second order (formative mode).

The construct 'factors related to the organisation' is a three-dimensional construct of the second order formed by three other constructs of the first reflective order (Table 4). The 13 items measuring these three sub-dimensions are used together to measure the variable of the second order (formative mode). We proceed in the same way for the case of the construct 'factors related to the project'. This later is a two-dimensional construct of the second order, formed by two constructs of the first order (Table 4). Ten items measuring these two sub-dimensions are used together to measure the variable of the second order (formative mode). Given the lack of a recognised methodological approach to test the validity and reliability of the formative constructs, our approach refers to Diamantopoulos and Winklhofer (2001) contribution. It is based on the fact that assessment of the formative construct of the second order relevance refers to measuring the

Table 4: Formative Constructs Validity

Constructs of the second order	First order	Items contribution to constructs	t-Statistic
Factors related to organisation	FO1 FO2 FO3	0,2443 0,6432 0,257	2,6065 10,9224 2,5776
Factors related to project	FP1 FP2	0,6003 0,5035	8,2253 6,7715

significance of the coefficients regression and to study the multicollinearity risk.

- ***Multicollinearity:*** The multicollinearity test between indicators is performed by checking the Variance Inflation Factors (VIF). Results showed that VIF values are all below the threshold of 10 (Table 4). Absence of the multicollinearity between indicators of formative constructs leads us to conclude that our measurement model is reliable.

- ***Significance of the Regression Coefficients:*** To ensure the validity of our formative constructs, we checked whether the links between the various indicators and their constructs are significant. Hence, we measured the significance of the regression coefficients throughout the Student t-tests. To this end, the bootstrapping technique is applied to test the coefficients significance.

  Results of the various tests revealed that all the conditions required ensuring the test of our hypotheses are met. Results of the measurement model assessment assert that the measurement indicators allow to correctly measuring different constructs of the model. Validity and reliability of the reflexive and formative constructs of the model are confirmed.

Overall Model Quality Assessment: Model quality is assessed by calculating the determination coefficient R2 (explained variance) of the endogenous variables through the re-sampling 'bootstrap' technique. Results revealed R2 value is very satisfying. R2 = 66.82 per cent (Table 5). This implies a very strong relationship between the explanatory variables and the predictor variables of the model. Furthermore, as recommended by Tenenhaus et al., (2005), the overall validation of the research model in the PLS approach is evaluated by the GoF index (Goodness-of-Fit).

GOF = $\sqrt{}$ [(Average communality) x (Average R-Square)].

Table 5 shows that GOF index displays a very satisfactory value that is above the threshold recommended (30 per cent) (Tenenhaus al., 2005). It reflects on the one hand, the good quality links between measurement indicators

Table 5: Overall Model Assessment Quality

	AVE	Composite Reliability	R Square	Communality	CV communality (H2)	CV Redundancy (F2)
F1	0,6145	0,9271		0,6145	0,503	
F2	0,6249	0,9208		0,6249	0,640	
F3	--	--		0,4629	0,465	
F 4	--	--		0,5197	0,519	
F5	0,5815	0,8927		0,5815	0,412	
F6	0,6396	0,9141	69,57 %	0,6396		0,441
F7	0,8341	0,9617	66,82 %	0,8341		0,529
Average			0,68195	0,5607	50,78 %	48,5 %
GOF			**61,83 %**			

and latent variables, and on other hand, a good quality of structural relations.

$$GoF = \sqrt{[(0.5607) \times (0.6819)]} = 61.83\%$$

Furthermore, we also assessed the measure quality for each block of variables by calculating cv- cv-communality and redundancy through the Blindfolding SmartPLS.Table 5 shows that for the basic model and quality of both the measurement model the structural model is satisfactory.The average cv-communality (H2 = 50.78 per cent) is well above the threshold (30 per cent) (Tenenhaus et al., 2005). The cv-redundancy index (F2 = 48.5 per cent) exceeds the threshold (30 per cent).The results show that all the criteria of the structural model assessment are satisfied (R2> 0.1; GOF> 0.3; cv-communality> 0.3; redundancy CV> 0.3). Hence, the quality of the global model is validated.

Research Hypotheses Test: To test our model hypotheses, we assessed the standardised regression coefficients significance using the bootstrapping technique. It considered a sample of 500 observations using the SmartPLS software. Table 6 presents results of structural links assessment (coefficients, t-statistics and variance percentages).

Results and Discussion

The results reveal the lack of positive

Table 6: Results of the Hypothesis Test Synthesis

Hypotheses	Standard Coefficient B	Statistic-t	Explained variance	Conclusion	Hypothesis statute
H1.a	-0,122*	1,8493	**69,57%**	Negatively Significant at 10	Rejected
H2.a	0,208**	2,1037		Positively significant 5%	Confirmed
H3.a	0,376***	3,2061		Positively significant 1%	Confirmed
H4.a	0,294***	3,3244		Positively significant at 1%	Confirmed
H5.a	0,134+	1,5154		Positivelly significant at 15%	Confirmed
H1.b	-0,169**	2,5165	**66 ,82 %**	Negatively Significant at de 5%	Rejected
H2.b	0,063	0,6631		Non significant	Rejected
H3.b	0,136	0,9163		Non significant	Rejected
H4.b	-0,218**	2,3683		Negatively Significant at 5%	Rejected
H5.b	**0,334*** **	3,4946		Positively significant at 1%	Confirmed
H6	**0,658*** **	5,9356		Positively significant at 1%	Confirmed

Significance 1%***, 5%**, 10%* ; 15%+ .

correlation between factors related to the project manager and to the management success of the local project development of the basic infrastructure. Factors related to the project manager have a significant negative influence on the project management success.

The perception of Taroudant province local actors unexpectedly reveals the lack of a positive contribution of the project manager to the local project development of the basic infrastructure.This unexpected result might be due to the ineffective involvement of the project manager in the project management process. According to the respondents, the majority of managers perform alongside their main job other paid or personnel work activities. Hence, they are often far away from their work places, while they delegate some essential tasks to secretaries or other managers. Another explanation provided by the respondents is that political considerations influence the project selection criteria. These political considerations are viewed as a source of conflict between the projects stakeholders that impedes the success of the project.The results

strongly support the direct and positive relationship between factors related to the project team and to the design-planning phase success. This phase is considered of significant importance to the project management process. It identifies the need to anticipate events that may positively or negatively influence the project and strengthen its achievement under favourable conditions. This context implies significant interactions between team members through their experience, technical skills, motivation and synergy to transform the project idea into an exhaustive implementation plan. This finding confirms those of Remus (2007) and Khang and Moe (2008).

However, the project team-related factors have no effect on the project implementation success. The respondents of Taroudant Province give little importance to the role of the project team in the implementation phase. Yet, as acknowledged by many stakeholders, design-planning phase appears crucial in the project management process. It brings all the attributes that ensure a satisfactory technical and financial project implementation.

The results reveal a strong positive significant correlation between factors related to the organisation and the success of the design-project planning phase. They highlight the leading role of organisational factors to influence the design-planning phase success. According to Taroudant Province respondents, organisational factors are considered the main factors behind the success of this phase, where the project idea is developed, planned and evaluated. Indeed, in this phase the municipality could act on the elements of its internal environment in order to achieve the smooth running of the project. Our results support findings of other previous researches such as Brière and Proulx (2013), and Kim and Rhee (2012). In contrast, Zwikael and Globerson (2006) have proved a non-significant link between organisational factors and the project implementation phase success. This can be explained by the fact that Taroudant Province respondents attach great importance to the design-planning phase, which provides the maximum effort of organisational support. This is consistent with the directive published in the DGCL and findings of Yu and Kwon (2011).

Unlike Khang and Moe (2008) and Yu and Kwon (2011), the result of my study show that factors related to the project negatively impact the success of the implementation phase. This may be explained by the fact that local basic infrastructure development project has distinctive features from other project categories.

The results show an insignificant contribution of the project external environment factors to the achievement of the design-planning phase success. However, their presence is desirable as they facilitate the project implementation. In consistence with that of Remus (2007) and Khang and Moe (2008), our findings reveal the positive and significant relationship between the external environment project factors and the implementation phase success.

The results show that the design-planning phase success has a positive influence on the implementation phase success. This is consistent with Khang and Moe (2008), confirming the dynamic link between different phases of the life cycle of the project in South Asian countries. It is also confirmed that the success of each project life cycle phase has a significant impact on the next one.

The results show that the majority of the identified factors have a positive significant impact on the success of the design-planning project phase. These factors are mainly related to the project team, the organisation and the project. In Taroudant Province, respondents confirm that their absence can cause the project failure. Results show that factors related to the external environment project determine its implementation success. These factors require exogenous variables that are not controlled by the project manager or the project team, but perceived as important for the success of the phase. The unexpected result is that factors related to the project manager do not influence the project management's success in the local development of basic infrastructure.

Given these results, Taroudant Province respondents give much more importance to the design-planning phase than the implementation phase, because it represents the phase where goals are decided and needs and interests of the local community to develop projects are defined.

Managerial Implications and Conclusion

This research investigates factors explaining the success of the local project management success of basic infrastructure. More specifically, it attempts to provide a conceptual framework allowing rural territorial managers to get a practical tracking approach and progressive assessment of their projects. Results have confirmed that the majority of factors from the previous work on project management success and those from the exploratory study have a positive impact on the success of the local project management of basic infrastructure. These factors are related to the project team, organisation, project and external environment of the project.

Factors highlighted in this study may serve as levers to the smooth implementation of the rural project management of basic infrastructure. The list of the significant factors can be considered as a guide of 'good practices' for practitioners, more specifically, for rural territorial managers to successfully implement their rural projects. Managers or other stakeholders will have specific levers and key elements for the success of each lifecycle of their project.

To conclude, despite its originality, this work is not comprehensive and has its own limitations. The first limitation relates to the external validity of our results. In fact, our findings cannot be generalised since the current study is contextualised, and, accordingly, the obtained results are specific to a defined and particular context (the Province of Taroudant). The second limitation is methodological. The findings of our study are based on the perception of the

respondents, particularly the administrative staff of the rural municipality. However, obtaining a complete vision involves seeking the view of both the administrative staff of municipality as well as the other parties involved in the project management process (donors, external services, partners, beneficiaries, etc.).

Notes

1. The primary components are roads and transportation services, water supply and distribution, sanitation and energy.

2. The DCP is a strategic plan established by a municipality. It defines the priority actions envisaged reflecting the true aspirations of the population while being in perfect coherence with the potentialities of the communal territory.

3. Are those areas that suffer the most poverty and underdeveloped services (social exclusion from the dominant structure socio-economic, cultural and political).

4. Local development it can be seen as a process through which a local actors mobilise themselves to promotes and reinforce the living conditions of their locality.

5. Development Communal Plan (DCP) Development Guide published by General Direction of Local Communities.

6. Note that the square root of the AVE diagonal of the construct factor 2 is closer to the correlation between the two constructs factor 1 and factor 2. We have decided to keep all the initial items of the two constructs, although the correlation (off-diagonal between factor 1 and factor 2) is substantially greater than the AVE (diagonally) of the construct factor 2. This is explained by the fact that eliminating one item in these two constructs does not improve the value of the AVE (diagonal) construct the factor 2.

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