

# Why Public Sector Projects Fail or Succeed in Pakistan- A Model for Evaluating Impact of HR Management Practices on Project Success

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## ABSTRACT

*Employees are an organization's most valuable asset. As quality human resources become scarcer, businesses must pay greater attention to employee satisfaction and motivation. If employees are motivated to work, it is likely that they will produce better results. This research will examine the impact of Human resource management (HRM) practices on new product development (NPD). Technical, marketing, and financial risks are involved in the development of new products and services. Effective project planning and management contribute to sound decision-making. The analysis of the impact of HRM practices on NPD, project success, and organizational benefit is based on data collected using a cross-sectional design via a survey questionnaire. The questionnaire consisted of items related to HR practices, NPD, Project Success, and Organizational benefits adapted from previous studies. Respondents working in 10 large-scale public sector projects executed by National Database & Registration Authority, Pakistan were selected for the study. Therefore, the results of the study can be generalized to similar projects executed by the public sector in Pakistan. According to the findings of the data analysis, there is a significant relationship between HR practices and project success, but there is no significant relationship between new product development and organizational benefit. It can be concluded that HR management practices have a significant influence on the success of public sector projects in Pakistan.*

**KEYWORDS:** *New product development, Management Practices, Project success, Organizational benefit, Managerial prospects.*

## Introduction

To quickly respond to market demands and maximize profits, organizations must reduce their product development cycle and time to market placement. The importance of new product development (NPD) projects to the achievement of business objectives has resulted in increased interest from the industry. Increasingly, organizational product development strives to utilise a project-based methodology in order to achieve predefined objectives [1]. The last decade has witnessed projectization (increased reliance of firms to achieve objectives using project-based methodology) which marks significant

growth for the field of project management. Projects imply a temporary structure; a changed work situation has been established due to this process of projectification [2]. In a projectized firm, a temporary work structure in the form of a project is created that produces products and services as per the requirement of the client. At the start of each new project, the management must adopt the human resource practices, policies, and strategies and mold them according to the project [3]. HR management is critical in projectized firms as it alters the way the human resource is acquired and utilized which subsequently alters employment relations amongst employees and employers [4]. HR management i.e., policies, procedures, and practices in project-based companies are adapted to project-based working but they are significantly different from conventional HR management policies, practices, and procedures in that conventional organizations follow and produce generic products or services and have well defined and consistent job descriptions and specifications [5,6]. This has posed the unique challenge of balancing employee well-being and management ethics in project-based firms. Ideally, projectized firms should have a management style that focuses on empowering employees, team building, change management, customer focus, and building networks with customers and suppliers [4]. Literature review suggests that many projects fail due to HR management modelling issues [7]. Although research indicates that HRM is related to firms achieving desired performance goals and objectives while the relationship of HR management in new product development is quite unclear. One reason might be studies focused on the product and ignored the development process [8]. Hence; research analyzing HR management and its effect on organizational performance has gained considerable popularity. These studies have focused on HR practices like staffing, selection, training and development, performance appraisal, building teams, job satisfaction, compensation, career planning, resource optimization, succession planning, and job security [9,10]. Current Literature has indicated that human resource practices could help firms attain competitive advantage and resultantly improve their originality [11]. Thus, there is a dire need to analyze the effect of HR management practices, their influence on project failure or successes, and particularly its effect in new product development environments [12]. A unique approach in HR research is the contingency approach. The contingency approach equates environmental factors into the equation while analyzing the HR management and project success relationship [13]. Although the contingency approach is backed up well by theoretical debates, empirical evidence has left much to be desired [11]. The effect of HRM practices on project success is quite an unexplored area of research. This study's primary objective is to empirically validate a model for assessing the relationships between HRM practice, NPD project success, and organizational benefit in the context of NADRA.

## 1. Literature Review

Human resource management is defined as practices that support, motivate, and retain employees to ensure the organization's and its members' effective engagement and viability [14]. HRM practices are also abstracted as a set of internally steady policies and practices modelled and realized to ensure that a firm's human capital contributes to the attainment of its business goals [15]. Human resource management (HRM) for IT projects refers to all happenings related to the top management of people in a project team. It is logical that the success of IT projects and the performance of HR consisting of the project team are related to one another. In order to gain and withstand a competitive advantage,

organizations in the IT business must realize the significance of human resources as a key factor in their business performance [16]. One of the significant functions of HR management is performance management which helps project managers to gauge and sustain the performance of the project team [17,18,19].

New product development is the process of developing a novel product or service for the market. A new product is initiated to address an existing need, challenge a rival product or add to an existing product line. NPD's role in the progress of the companies, its impact on revenue performance, and its influence is a key factor in business planning [20,21,22,23,24]. Managing the New Product Development (NPD) process has become a test for firms as it requires immense financial and human resources and is time-bound. The vast majority of new products are not even thrown into the market and those that are may not come across success, the rate of failure rate is 25 to 45% [22,21]. For everyone in seven-product ideas, about four enter the development stage, one and a half are launched, and only one is successful. Almost 45 percent or more resources are dedicated towards new product development, used on cancelled products that fail to reach the market [20]. This study will try to identify what impact HR practices have on NPD success.

Organizational benefit is defined as an output or outcome achieved that is interpreted as beneficial for the organization by the management [25]. The term organizational benefit can be categorized into three components by [26], firstly operational, secondly managerial and lastly strategic level gains [27], Secondly, Gains that are procedural, financial, creative gains and for clients [28,29,30,31], and Thirdly, Information Technology infrastructure and organizational categories [27,31]. Contrarily, dis-benefits are the result of the change that is perceived adversely. Benefits realization is the process of organizing and managing, so that perceived benefits originating from investment in change, are realized [32]. Benefits management are defined as the unique way of promoting the thinking that value should be managed on an active basis [33]. Benefits management he believes and portfolio management are complementary aspects of the novel mindset [34]. Various researchers have taken a broader view of benefits realization and defined it as the ability to be successful with innovative strategy and change management [35,36].

The concept of what features constitute a "successful" project has been much discussed in the project management arena. The evidence seems to point that this set of characteristics has changed, or developed, over the years. Project success involves concern for three factors: time, budget, and project performance. More recently, an extra component has been added - apprehension for the contentment and benefit of the client [37,38]. If a project is on time, within the allocated budget, and accomplished its expectations (within permissible parameters), it is termed a success [39]. Project success may be perceived differently by stakeholders, there is a need for all-encompassing criteria that delineates their interests and views [40]. Project success has been described as variables that measure project success. Albeit, specific criteria may be relevant in gauging the success of most projects, they should be fitted to the size, complexity, duration, type, and requirements of stakeholders [41]. The importance of stakeholders' satisfaction as primary criteria for success, alongside the golden triangle of time, budget, and quality, and in addition, states that different time lags should be considered [42]. The Figure 1 below, outlines the conceptual framework of the research, HR practices (DV) relationship with the

independent variables i.e., Project success, New Product Development and Organizational benefit manipulation.

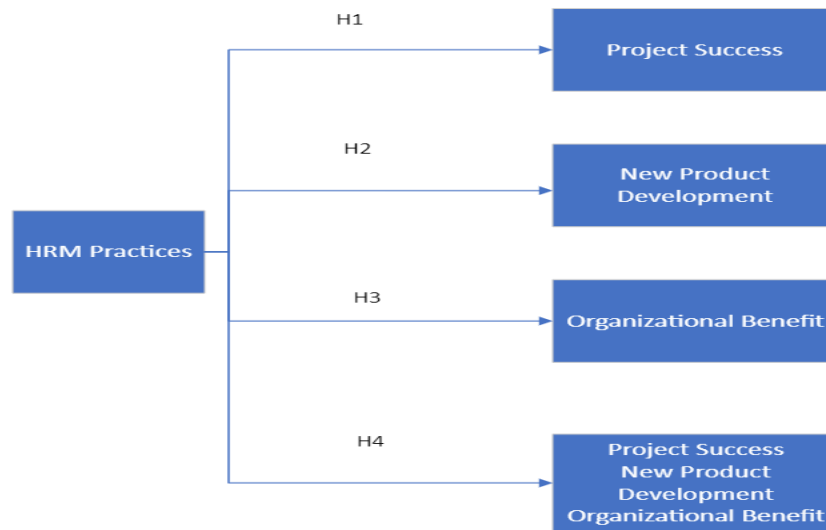


Figure 1. Conceptual Framework of the Research

This study will examine whether HRM practices have a significant and positive relationship with organizational benefit in the case of the selected public sector projects. To understand the research operation for this study, the following research questions will guide the researcher to research to achieve the goal of this study: -

1. Does HR practices bring multitude of organizational benefits for project-based organization?
2. Does the implementation of HRM practices influence the development of new products in a project-based organization?
3. Do HRM practices positively influence project success in the case of projects undertaken by NADRA?
4. Does the implementation of HRM practices have a significant positive impact on new product development projects, organizational benefit, and project success as a whole?

## 2. Research Methodology

The study is based on a survey that will add to existing research in the context of the National Database & Registration Authority, i.e., NADRA, (a leading public sector IT organization in Pakistan) and a pioneer in NPD projects. Nadra is a public-sector organization that undertakes IT projects related to public services on behalf of the government of Pakistan. This study included all ten projects that NADRA was doing at the time of the study. The population consisted of all employees working on the ten projects from which the sample was selected. This research is based on primary data obtained through a survey questionnaire, which is the cheapest tool for data collection. The study used a quantitative method with a cross-sectional design to measure employee perspective as recommended by previous research [47]. Stratified random sampling was used in this study to ensure that an adequate sample consisting of project managers and non-managers from the target population was selected. Since managers and non-

managers are different in terms of their education, i.e., the minimum education criteria for the selection of a manager are a Master's degree and, for non-managers, a high school diploma. Further, managers have an impact on the formulation and implementation of HR policies; hence, they represent different strata of the population, and each stratum should have adequate representation. The total number of employees working on each project and a summary of responses are shown in Table 1 below: -

S.No.	Project Name	Managers	Non-manual employees	Total Employees working on the Project	No. of responses (Managers)	No. of responses (non-manual employees)	Total No. of responses
1	Citizen cash Compensation project	9	60	69	5	31	36
2	Watan Cards	11	60	71	5	32	37
3	Benazir Income support program	4	48	52	2	25	27
4	Punjab arm license project	2	19	21	1	10	11
5	Pakistan Card Project	1	10	11	1	5	6
6	POR Card modification	1	8	9	1	4	5
7	Pakistan Electoral Rolls	2	10	12	1	5	6
8	Pension and Zakat Disbursement System	5	35	40	3	17	20
9	Prime Minister National Health Program	8	61	69	4	32	36
10	National Driver's License System Bangladesh	1	1	2	0	1	1
	Total Strength	44	312	356	23	162	185

Table 1. Population frame and Summary of responses, Source: Formulated by Author using MS Excel (2013)

The study utilizes closed-ended questionnaires to elicit primary data. The total number of project employees included in the study is 356. For a confidence level of 95% and a confidence interval of 5, the sample size was calculated to be 185 employees. The sample size for each stratum (layer) is proportional to the size of the layer. The sample is calculated by the following formula: -

The strata sample size equals the size of the entire sample/population size multiplied by the layer size.

Strata sample size (managers) =  $185/356 * 44$ , or approximately 23 individuals.

Strata sample size (non-managers) =  $185/356 * 312$ , or approximately 162 individuals.

For the questionnaire, which was adapted from existing literature for the purpose of analyzing project success in the study, various factors were adopted after the literature review. Items for HRM practices were used to identify relevant HR practices [43, 44]. Project success items measured criteria for declaring a project successful [45], organization benefit items measured perceived benefits for the organization, and new product development items measured criteria for successfully developing a new product [31]. The questionnaire included 91 items in total, with 34 items related to HR management practices, 12 items related to project success, 35 items related to new product development, and 10 items related to organizational benefit. For the collection of data, the questionnaire was distributed online via Google forms as this enhanced reachability and the data was easier to compile and analyze. After the collection of data, it was organized, tabulated, and discussed. To reduce mistakes such as central tendency, the data was obtained using a survey questionnaire, and responses were recorded using a seven-point Likert scale ranging from 1 = strongly disagree, 2 = disagree, 3 = slightly disagree, 4 = neither agree nor disagree, 5 = slightly agree, 6 = agree, and 7 = strongly agree. The questionnaire was distributed to project employees using Google Forms via an online link. The questionnaire was closed once 23 responses for managers and 162 responses for non-managers were received that were complete and without errors. As statistically accepted the response rate was 54.5 percent, compared to 51.6 percent for non-managers. For data collection and analysis, SPSS (Statistical Package for the Social Sciences) was used. Descriptive statistics, including central tendency and dispersion, were measured, which showed the data had a normal distribution. Cronbach's alpha measures the internal reliability and consistency of the questionnaire variables used in this study. Correlation and multiple regression analysis were used to identify the relationship between dependent and independent variables.

### 3. Results and Discussion

The focus of this research has been on HR management in project-based organizations, particularly in Pakistani organizations. Stratified random sampling was utilized to ensure that each stratum was adequately represented in the population sample. However, no statistically significant difference was observed between the responses of managers and non-managers. This research is useful as it focuses on how HR management can help projectized firms that support innovation in new product development and project success. Previously studies had tried to elaborate the relationship between HR practices, project success, organizational success, innovation via new product creation, and organizational success using theoretical debates and lacked empirical evidence and no one has attempted to assess them in combination as a model as attempted via this research. This lack of understanding about the process has proved to be an obstacle in new product development success [46].

This lack of research about HR management in the new product development domain can be utilized by future researchers and the scope can be extended to other disciplines as well. The internal reliability and consistency for this study are measured by Cronbach's Alpha. Cronbach's Alpha ( $\alpha$ ) of Leadership and management is 0.889, Team building is 0.75, Training and development 0.45 which may be explained by the low number of items i.e., 5 however the same has a good value for Spearman-Brown formula, performance management, and compensation is 0.81. and Product newness & advantage is 0.87 and so on. The value of 0.7 for Cronbach's confirms that the internal reliability of the questionnaire is relatively high [47]. All variables have relatively high internal reliability. The correlation matrix showed the association of different variables with each other; it measures the degree of variance of these variables with one another. All relations are significant at a 0.05 level of significance. HR has a strong positive association with PS, NPD, and OB. Results showed all variables have almost a strong association with all others. Likewise, Project success is affected to some level by NPD and organizational benefit. The correlation matrix explains the association of different variables with each other; it measures the degree of variance of these variables with one another. HR has a strong positive association with PS, NPD, and OB. Likewise, Project success is affected to some level by NPD and organizational benefit. The table shows all variables have an almost strong association with all others. The tables show all relations are significant at a 0.05 level of significance.

	HR practices	Project Success	New Product Development	Organizational Benefit
HR practices	1			
Project Success	0.273684341	1		
New Product Development	0.64199266	0.34447313	1	
Organizational Benefit	0.331873031	0.428345791	0.38951178	1
Level of Significance	5%	T-Value	2.35336343	

Table 2. Correlation Matrix, Source: Formulated by Author using SPSS 23 (2018)

Hypothesis 1: HR practices have brought a multitude of organizational benefits for projectized firms, refer to Table 3, below. A careful analysis of the above shows that the model is accounted for the R-squared value of 0.11 interpreted as, 11% of the variance of DV i.e., HR practices is explained by the variable Organizational Benefit. For a one-unit increase in HR practices, the coefficient for Organizational Benefit is 3.21 which means we would expect a.4 unit increase in Organization Benefit.

REGRESSION STATISTICS								
Multiple R		R Square	Adjusted R Square	Standard Error	Observations			
0.331873031		0.110139709	0.105277084	0.309144441	185			
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	2.164691793	2.164691793	22.65025975	3.93404E-06			
Residual	183	17.48936226	0.095570286					
Total	184	19.65405405						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	3.2144997	0.576645871	5.574477965	8.78719E-08	2.076770526	4.352228874	2.076770526	4.352228874
X Variable 1	0.458778762	0.096397709	4.759228903	3.93404E-06	0.268584934	0.648972591	0.268584934	0.648972591

Table 3. Summary output- HRM practices vs OB, Source: Formulated by Author using SPSS 23 (2018)

Hypothesis 2: Implementation of HRM practices positively influences new product development in a projectized organization. Results Table 4, show that 41% of the variation in HR practices is explained by the explanatory variable (Project Success) of the model and 59% variation remains unexplained. The F statistics value is 128.30 which shows there is a significant relationship supporting the validity and reliability of the model. p-value also shows the significance of the model as (p<0.05). Positive coefficient beta value shows that as Management improves HR practices it has a positive impact on Project Success. The results are consistent with studies conducted by [44]. This finding accepts the hypothesis (H2) that there's a positive relationship between HR practices and Project Success (PS).

REGRESSION STATISTICS								
Multiple R	R Square	Adjusted R Square	Standard Error	Observations				
0.6419927	0.4121546	0.408942305	0.251265059	185				
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	8.100508296	8.100508296	128.3063268	7.02881E-23			
Residual	183	11.55354576	0.06313413					
Total	184	19.65405405						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	1.885798833	0.359869917	5.240223608	4.3871E-07	1.175771199	2.595826466	1.175771199	2.595826466
X Variable 1	0.6661215	0.058807053	11.32723827	7.02881E-23	0.550094484	0.782148516	0.550094484	0.782148516

Table 4. Summary output-HRM practices VS NPD, Source: Formulated by Author using SPSS 23 (2018)

Hypothesis 3: Implementation of HRM practices positively influences project success in the case of projects undertaken by NADRA. Linear regression analysis Table 5, of dependent variables and independent variables the results reveal that R2 of the model is .075 which endorses that 7.5 % variation in HR practices is explained by the explanatory variable new product development (NPD) of model rest remained unexplained. HR practices have a significant effect on new product development (NPD) and this finding accepts the hypothesis that there is a significant relationship between HR practices and NPD. The F statistics value is 14.81 which shows it is a statistically significant relationship supporting the validity and reliability of the model pertinent to the study.

REGRESSION STATISTICS								
Multiple R	R Square	Adjusted R Square	Standard Error	Observations				
0.2736843	0.0749031	0.069847944	0.315205754	185				
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	1.472149935	1.472149935	14.81711906	0.000163571			
Residual	183	18.18190412	0.099354667					
Total	184	19.6540540						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	4.432134497	0.396755065	11.17095882	2.00321E-22	3.649332026	5.214936968	3.649332026	5.214936968
X Variable 1	0.249737266	0.0648786	3.849301114	0.000163571	0.121731016	0.377743516	0.121731016	0.377743516

Table 5. Summary output-HRM practices VS Project success, Source: Formulated by Author using SPSS 23 (2018)

Hypothesis 4: HR practices have a significant positive influence collectively on new product development projects, organizational benefit, and project success. To test this hypothesis regression analysis was done and results reveal that R2 of the model is .42 which endorses that HR practices account for 42 % variation on Project Success, Organizational Benefit, and NPD success. The F statistics value is 14.81 which proves a significant relationship supporting the validity and reliability of the model



pertinent to the study, and the p-value also shows the significance of the model as ( $p < 0.05$ ). Significant coefficient beta value shows that Management HR practices do have any linear relationship with new product development (NPD). The results indicate their HR practices have a significant effect on NPD. This finding accepts the hypothesis (H1) that HR practices (HR) positively impact new product development (NPD).

REGRESSION STATISTICS								
Multiple R	R Square	Adjusted R Square	Standard Error	Observations				
0.6486861	0.420793677	0.411193572	0.25078608	185				
ANOVA								
	df	SS	MS	F	Significance F			
Regression	3	8.270301674	2.756767225	43.83219619	2.42243E-21			
Residual	181	11.38375238	0.06289366					
Total	184	19.65405405						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	1.284399783	0.513226953	2.502596123	0.013214754	0.271722406	2.297077159	0.271722406	2.297077159
NPD	0.028294486	0.058472464	0.4838942	0.629045892	-0.087080867	0.143669839	-0.087080867	0.143669839
Project Success	0.620407668	0.065231145	9.510911869	1.19235E-17	0.491696375	0.74911896	0.491696375	0.74911896
Organizational Benefit	0.118455041	0.090292335	1.311905834	0.191213367	-0.059705916	0.296615997	-0.059705916	0.296615997

Table 6. Summary output-HRM practices VS NPD, OB & PS, Source: Formulated by Author using SPSS 23 (2018)

This study has provided empirical evidence that HR practices can be utilized in better management of project teams particularly in the new product development domain. But it must be kept in mind that the context in this research is confined to HR management. There is a need for further research in this area as new product development marks a new frontier for innovation management practitioners. The research result has shown that NPD success is significantly beneficial for the organization which is supportive of H3. Previous research [47,48] had proved that new product development triggers multiple benefits for executing organizations like competitive proprietary advantage and boosting organization success product market. It is notable that HR practices are not the only factor that boosts organizational benefit although it definitely has a positive impact that supports or is in line with H3. The results of the study have shown that HR practices are responsible for organizational benefits because when new product development projects succeed, they trigger a multitude of benefits for the organization. Hence HR practices boost organizational benefit via NPD project successes. This does not state that HR practices do not directly impact organizational benefit as HR practices also have a significant direct impact on organizational benefit as proved vide H3. The result confirms previous research which analyzed outputs of HR practices [49,48,47].

## 4. Conclusion

Project managers can use this research to adapt their HR management strategy to be all-inclusive, catering to both individual developmental goals and aligning them with overall project objectives. Prior studies have also shown that HR management boosts chances of project success [50]. Market performance may be improved by project performance [48,47]. The relationship between HR practices and NPD project outcomes has been substantially established by this research as it leads to the overall progress of the organization and project methodology can be utilized very effectively to achieve innovation strategy.

Previously studies were focused more on the tools and techniques, the findings in the current study indicate that HRM practices positively influence new product development which is supportive of the second hypothesis. The results show that HR practices are critical in making a project successful which confirms the previous studies [51]. The research findings suggest that new product development projects are more likely to succeed with the application of effective HR practices. Also taking into consideration that HR management boosts the project success is measured in terms of cost success and quality success, consequently, NPD success improves innovation success in an organization. Hence, project managers should formulate HR strategies that take into account all aspects affecting the process and further disseminate the strategy effectively to the project team for better management of project teams. For effectively managing teams the project managers must delegate and empower team members to take responsibility for their work and positively aid project success. While formulating a strategy it is imperative that project team members' need for growth is satisfied and the work environment takes into consideration individual as well as project needs. At the same time project objectives should not be ignored but aligned with individual goals. This can be achieved by proper training and development opportunities for project team members. The project managers must manage diverse HR allotted on projects. This implies including many people incapable project teams, in case these members lack the requisite skills and expertise, necessary training should be scheduled to meet predefined objectives. Finally, project managers must avoid wastage of resources and redundancy and encourage team members to cooperate in achieving collective goals. The research has several important outcomes for project success as well. For project managers to be effective and successful, they must be innovative by setting goals for developing novel products and services through constant improvement. These goals must be aligned with the new product development process and also measure the effect of encouraging innovation on NPD. Managers must ensure training and related activities are undertaken timely so that new product development benefits arise from innovative strategies. The critical factors in project success are keeping projects within budget, utilizing cutting-edge technology, and meeting predefined project objectives. One way of lowering project costs is the effective utilization of project human resources. Another is by boosting operational efficiency and effectiveness and lowering developmental costs. Further, project quality can be ameliorated by gaining organization-wide support for NPD projects. Managers should be committed to project quality by devising an effective quality management policy and its implementation. They must ensure project quality goals and objectives are achieved while ensuring project objectives are met too. As per the results, it is shown that HR practices and new product development project success also depend on environmental variables like working conditions, time, and scheduling constraints, amongst others which are in line with previous studies which had shown that HR-related factors and project success is moderated according to project type [41].

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