Investigation on Leadership Skills of Project Managers as Critical Success Factor of Public Sector Agriculture Projects in Bangladesh

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Abstract: *Project management ensures the success of a variety range of projects across the all industries as well as agriculture business. In Bangladesh, agriculture sector plays a vibrant part in fast-tracking the economic growth. Bangladesh government has developed Seventh Five Year Plan with Sustainable Development Goals and National Agriculture Policy where agriculture sector has been given the highest priority in order to make Bangladesh self-sufficient in food.In order to ensure long-term food security for people and for Bangladesh's dream of becoming a middle-income country by 2021,therefore it is important to have a pprofitable, sustainable and environment-friendly agricultural system. Thus, the government emphasizes and achieves its goals through the development projects and as a leading agency; Department of Agriculture Extension has extension services through the projects and programs.As a developing country, nowadays, Bangladesh has particular emphasis on the project based development in its agriculture sector where skills of Project Managers are as a means of assessing projects. Therefore, in project management literature has covered the critical success factors. However, surprisingly; literature finds that it usually does limit mention the Project Manager's leadership capability as an achievement aspect for projects. As there is limited substantial research work found on the issue, the research will be investigating the Project Manger's leadership competences in public-sector agriculture projects in Bangladesh. Being an investigative and quantitative in nature, the research is designed to a deductive approach along with survey study strategy, questionnaire used to collect the data. In exploratory in nature the research will be needed structure questionnaires with close ended questions and descriptive statistic data analysis from the probability randomize sample population to find the current status of the Project Manager's skills in public-sector agriculture projects in Bangladesh. The end result can be supportive for effectively handing the public-sector agriculture projects of Bangladesh as well as other the developing countries of the globe.*

Key words: Project Managers' leadership skills; critical success factor;agricultural project management.

I. Introduction

The economy of the developing countries like Bangladesh has stimulated a huge demand and mostly depends on projects (Banihashemi*et. al*., 2017). Bangladesh has a prevailing trend towards economic growth has resulted in a huge demand for delivering projects (Zhang *et al*., 2014 and (Planning Commission 2015). The government has also increased its Annual Development Program (ADP) budget significantly for the agriculture sector through the development project in its 7th Five Year Plan (FY 2016-2020) (Planning Commission 2015). Consequently, Project Managers in developing countries are lagging in embracing the concept of leadership skills as success factors in managing projects (Banihashemi*et. al.,* 2017).Accordingly delivering successful projects is extremely crucial for the organization and they have been turning to utilize project management competitive advantage by the continuous arrangement of projects outputs, outcomes, benefits and organizational strategy (Musawir, 2017). As a developing country, nowadays, Bangladesh has emphasis particularly on the project-based development in its agriculture sector where success factors are as a means of assessing projects (Hamiduzzaman 2014;Todorovic*et al.,* 2015; Martens, 2017; Makui, 2018). Evidenced showed that, 55 public sectors agriculture projects have been working on to attain the target of the Sustainable Development Goal (SDG) (MOA, 2018). Therefore, it is necessary to take initiation to develop its project management practice and leadership skills of Project Managers by knowing the critical success factors in agriculture sectors.It is expected that this research are to endow Project Manager's skill to deliberate project successfully in the agriculture sector in Bangladesh.Bangladesh has estimated growth rate is 7.24 percent for the current FY 2016-17, where

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agriculture sector's contribution will be to the tune of 0.5 percent (Bangladesh Economy, 2017) and about 60% revenues allocated for public agriculture projects in Bangladesh (BBS Report, 2017).Therefore today, project management is inevitable for development in Bangladesh agriculture sector, a place of continuous improvement through different types of various projects. Project management is not only necessary for that improvement but also one field that seeks for improvement itself, through influence on Project Manger's leaderships skills. The public agriculture sector of Bangladesh has a crucial place in the advancement of the economy being an agricultural and developing rural area in the world (tripled between 1972 and 2014, from 9.8 to 34.4 million tons and averaging growth is 2.7 percent per year, second only to China) (The World Bank, 2018). More importantly, the agenda of the current government is turning to a middle-income country by 2011 and achieve the Millennium Development Goal, agriculture should need to grow at a constant GDP rate of 4-4.5% per year (Miah, 2015). Therefore, it is necessary to take initiation to develop Project Manager's skills for accomplishment to the projects in agriculture sectors while agriculture development mostly depends on projects (Annual Report, 2018). The current body of knowledge and in Bangladesh has limited research on leadership competencies as a part of its critical success factor. To address this gap, this study investigate a critical success factor as leadership for the success of agriculture projects. Understating the leadership factors that pay attention to project success is imperative. When identifying leadership skills of Project Managers in this manner, it becomes easy to get the effort to learn, develop and improve leadership skills, abilities and techniques for attention to goals and responsible for guiding and moving team towards accomplishing specific projects (Hamiduzzaman, 2014). Also insightful knowledge has been achieved, based on this work, for carrying out research on project leadership skills and other factors help in agricultural organization, academic as well as greater society and will get steps forward in appropriate training and development at various stage of the project cycle which have effect outcomes in public sector.

II. Materials and Methods

Research philosophy
The objectives of this research study are the critical analysis of success factors for agriculture projects in public sector to include the project manager's leadership competencies as a success factor. To achieve those objectives, this study considers the interpretive/constructive philosophy paradigm (Johnson *et al*., 2017).

Research approach
The research using existing literature to find out specified the leadership skills of Project Managers under the literature leadership theory or styles and factors to analyze proposition in number in public sector agriculture projects (Alias &Zawawi, 2014; Saunders *et al.,* 2015; Woiceshyn, 2018).

Research methodology
In this research, a quantitative approach is selected to understand the factors that can ensure the Managers skills as success of the project management in public sector agriculture projects (Lee, 2018).

Research strategies
The research aim is to explore the Project Managers' skill as critical success factors to delivery projects from whom who has hand on experience on that issues with the type of question are who, what, when, where, why, how many where the survey enable the researcher to expand a better insight and understanding to measure the current situation (Hussein *et al.,* 2015; Leggett, 2017).

III. Research techniques and procedure

Data collection method
A structured and self-completed questionnaire (closed-ended questions) was exploited in order to collect data via e-mail.

Research location
The research was conceded out in the areas of public sector agriculture projects in Bangladesh.

Research population and sampling
The targeted population taken account of 40 government officers in Department of Agriculture Extension in Bangladesh. The sample have been selected as simple random sampling where all officers have an equal chance being selected and probability simple random sampling technique used for this research due to the population size was small (Ayesha, 2017).

Data analysis

The research followed descriptive statistics analysis process and the picture techniques for this research accepted as frequency distributions. Therefore, the collected data was analyzed in SPSS (Standard Package for Social Science by IBM) for measured and presented in frequency tables and diagram (Pie or Bar charts) for interpretation and understanding (Luckmann, 2017, Huck, 2014; Besteiro, 2015; Pakkies, 2016).

IV. Results and Discussion

General information

Breakdown of the Demographics of Survey Respondents:

Position title

There were 40 Officers participated in this research and the giving out of the reply by the projects professional position title is as follows:

➢ 82.5% - Middle Manager
➢ 15.50% - Project Manager
➢ 2.5% - Entry level Manager

Refer to bar chart 1 below. It shows the relative size of the different position titles and displays the size of each slice relative to the total sample.

Current position Title

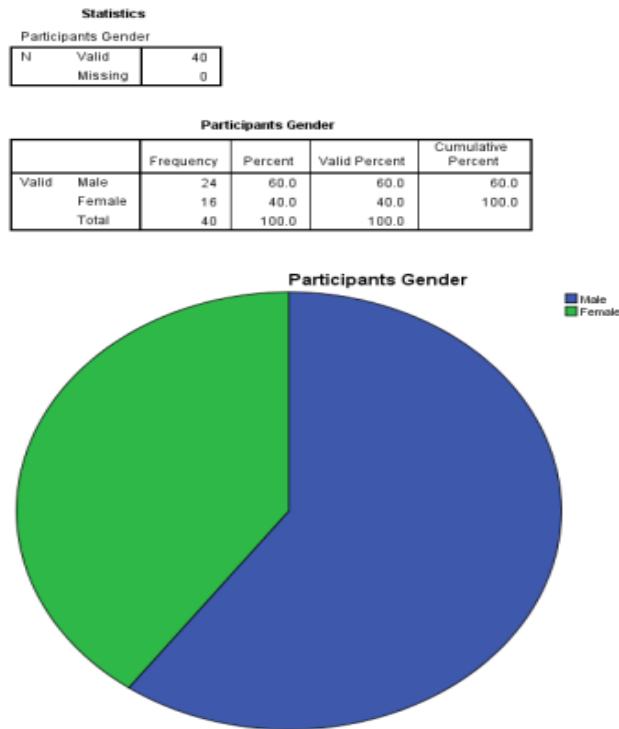|		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Project Manager	6	15.0	15.0	15.0
	Middle Manager	33	82.5	82.5	97.5
	Entry level Manager	1	2.5	2.5	100.0
	Total	40	100.0	100.0	
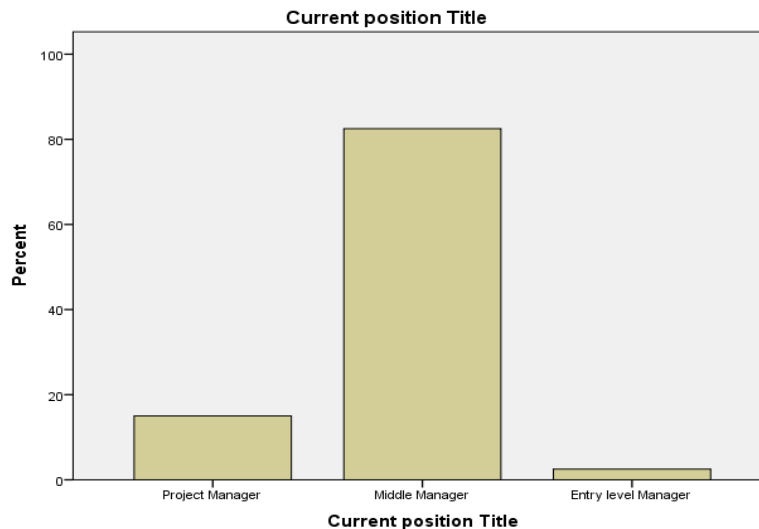
Figure 01:Current position title of the respondents

This point stated that the t majority of the project professionals were working as middle managers in public sector agriculture projects in Bangladesh. As a consequence of these determinations, it is necessary to highlight that the aim of the study is not to get upward with our focus on position classes think about or practice project success factors, but to focus on how project professionals in general do so.

Gender classification

The question was in standard survey where the respondent's ratio was 80%. The gender distribution of participants in this survey is (as shown below in figure 2):

➢ 60% male and
➢ 40% female

Statistics

Participants Gender

N	Valid	40
	Missing	0

Participants Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	24	60.0	60.0	60.0
	Female	16	40.0	40.0	100.0
	Total	40	100.0	100.0	

Figure 02: Gender classification of respondents

This statistics affirmed that the respondents who were responded the survey were more males. As the end result of these determinations, it is necessary to highlight that the aim of the study is not to get upward with gender classification or practice project success factors, but to focus on how project professionals in general do so.

Age range

The dispersion of the responses by age range is as follows and refers to bar chart 6 below, indicates the comparative size of the age range and displays the size of each slice relative to the entire sample. Most of the officers were younger in agriculture projects.

➢ 60.00% - 30-40 age
➢ 25.00% - 40-50 age
➢ 12.50% - 50-60% -50-60 age
➢ 2.50% - 60 and over old

Participants Age group

|		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	30 to 40 age	24	60.0	60.0	60.0
	40 to 50 years age	10	25.0	25.0	85.0
	50 to 60 years	5	12.5	12.5	97.5
	60 and over years old	1	2.5	2.5	100.0
	Total	40	100.0	100.0	
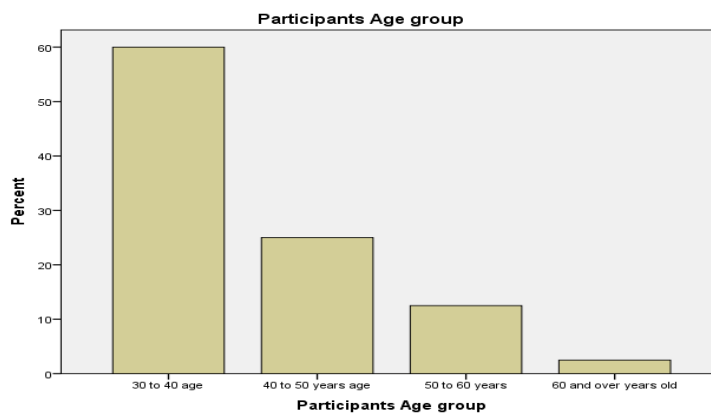
Figure 03: Respondent's age classification

Work experiences

The distribution of the responses by years of project management experience is as follows and the following bar chart 7 below. It shows the relative size of the years of experience and displays the size of each slice relative to the total sample.

➢ 20.00% - Less than 3 years
➢ 40.00% - 3 to less than 5 years
➢ 20.00% - 5 to less than 10 years
➢ 10.00% - 10 to less than 15 years
➢ 10.00% - More than 15 years

Experience in project (Years)

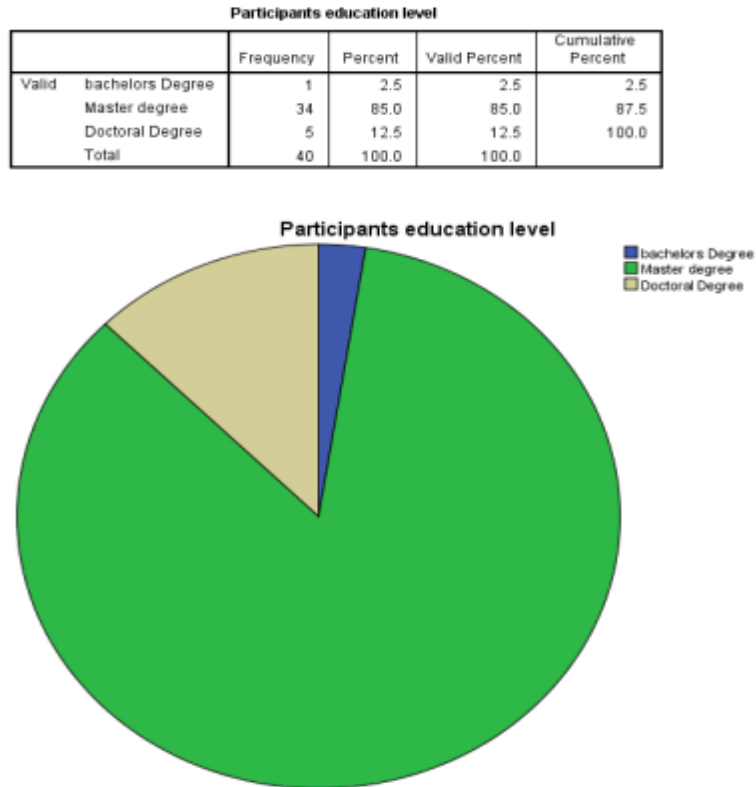|		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 3 years	8	20.0	20.0	20.0
	3 to less than 5 years	16	40.0	40.0	60.0
	5 to less than 10 years	8	20.0	20.0	80.0
	10 to less than 15 years	4	10.0	10.0	90.0
	More than 15 years	4	10.0	10.0	100.0
	Total	40	100.0	100.0	
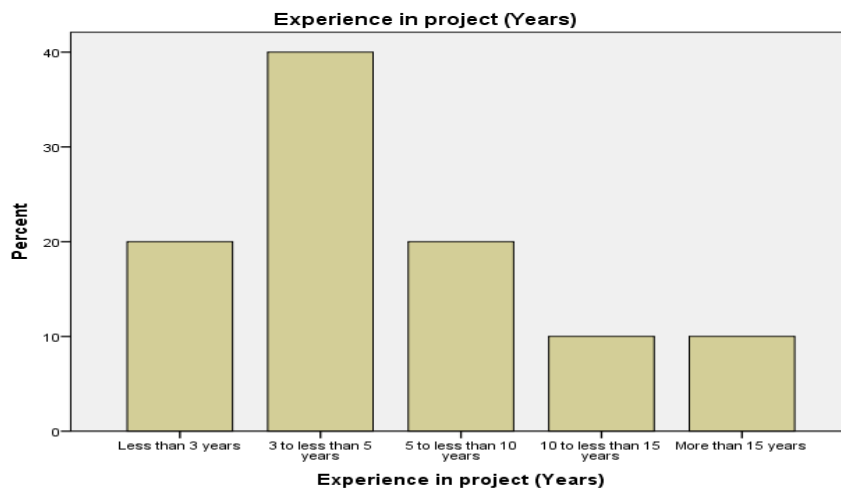
Figure 04:Respondents' work experiences

This outcome from survey data analysis, acknowledged that the respondents who were responded the survey were more males, middle positioned officers who were mostly 3-5 years experienced in this project management sector. As the end result of these determinations, it is necessary to highlight that the aim of the study is not to get upward with officer's work experience or practice project success factors, but to focus on how project professionals in general do so.

Education level
The delivery of the responses by the Officers who has the education level achieved is (shown in figure 5 as follows):
➢ 85% -Master Degree,
➢ 12.50% -Doctorate Degree and
➢ 2.5% -Bachelor Degree

Participants education level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	bachelors Degree	1	2.5	2.5	2.5
	Master degree	34	85.0	85.0	87.5
	Doctoral Degree	5	12.5	12.5	100.0
	Total	40	100.0	100.0	

Figure 05: Educational status of the respondents

This outcome from survey data analysis, acknowledged that the respondents who were responded the survey were more males, middle positioned officers who were mostly 3-5 years experienced with Master Degree in this project management sector. As the end result of these determinations, it is necessary to highlight that the aim of the study is not to get upward with officer's educational status or practice project success factors, but to focus on how project professionals in general do so.

V. Breakdown of team member skill set by respondents
Order of importance: team member skill set
Below respondents shown the order of value of what team member's skill sets they think are important in parliamentary procedure to deliver successful projects:
➢ Commitment-47.50% of the respondents
➢ Technical Background-17.50% of the respondents
➢ Project Management knowledge-15.00% the respondents
➢ Experience-12.50% of the respondents
➢ Trouble shooting-5.00% of the respondents
➢ Communication-2.50% of the respondents

Team members support

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Technical background	7	17.5	17.5	17.5
	Communication	1	2.5	2.5	20.0
	trouble shooting	2	5.0	5.0	25.0
	Commitment	19	47.5	47.5	72.5
	experience related areas	5	12.5	12.5	85.0
	project management knowledge	6	15.0	15.0	100.0
	Total	40	100.0	100.0	
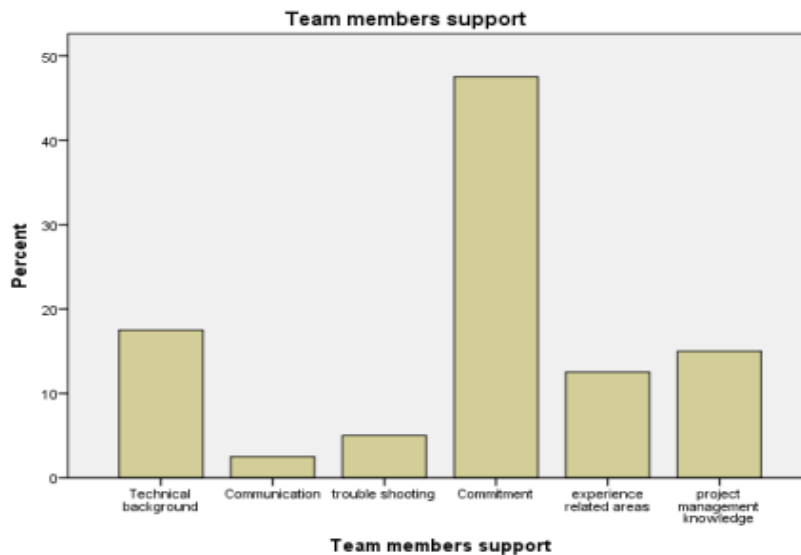
Figure 06: Team member support

Investigating the feedback on the questioner's respondents, it is discovered that the highest percentages of the officers thought that for team members' skill is commitment. Though, Aga*et al.*, (2016) alleged that team communication, cohesiveness, collaboration, effectual and professional team building remarked as precondition of the project success, the commitment of the team member through to leaders or the Project Managers has most significant impact to success according to Creasy (2017).

On the other hand, communication has the lowest percentages among the desired team member skill sets. It could have valued the lowest by respondents due to the fact that communication skills without commandment, the right technical background, and effective trouble shooting skills are not equally valuable because it does not bring about a tangible result that can be evaluated (Aga, *et al.,* 2016).

VI. Breakdown of leadership competencies by respondents

Order of importance: intellectual leadership competencies
Below respondents presented the order of importance of what intellectual leadership competencies they think a project manager needs to possess in order to deliver successful projects:
➢ Strategic Perspective 37.50% of the respondents
➢ Critical Analysis and Judgment -30.00% of the respondents
➢ Experience related area-22.50% of the respondents
➢ Vision and Imagination-10.00% of the respondents

Intellectual leadership ability of project Manager

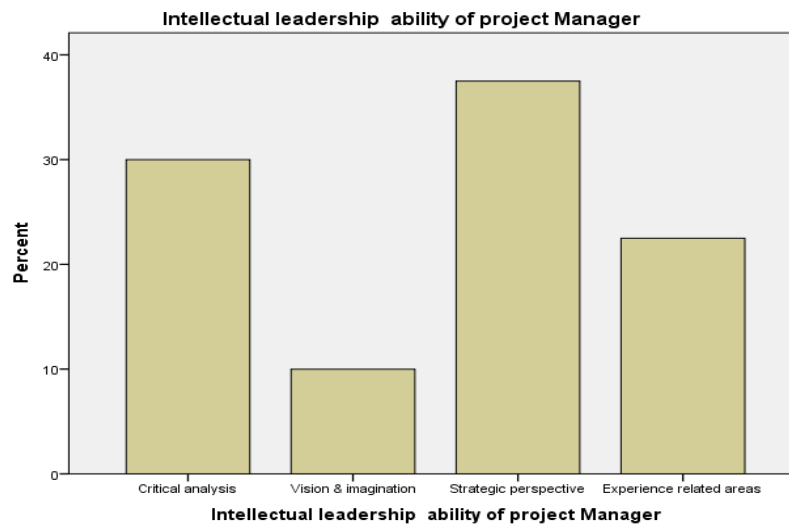|		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Critical analysis	12	30.0	30.0	30.0
	Vision & imagination	4	10.0	10.0	40.0
	Strategic perspective	15	37.5	37.5	77.5
	Experience related areas	9	22.5	22.5	100.0
	Total	40	100.0	100.0	

Figure 07: Leadership intellectual skills of Project Manager

Scrutinizing the opinion on the participating respondents, it was exposed the highest percentages for the competency of intellectual leadership was strategic perspective 37.50% and then critical analysis and judgment 30%. That indicates that officers placed the most value on this particular competency for leadership skill of Project Managers in public sector agriculture projects. As definition of (Leadership, 2012) leadership, influence the people towards accomplishing the goals within the organization as a result of internal and external strains which is referred to strategic perspective result of an organization.

Unexpectedly vision and imagination have the lowest (10%) among the intellectual leadership competencies. This could indicate that project professionals believe that the vital analysis and judgment competency are not a much stronger asset to have because with understanding the strategic perspective one naturally would have good imagery and imaging skills as well which is similar consequence of Dulewicz (2005, cited in Muller, 2010).

VII. Order of importance: managerial leadership competencies
Below public officers ranked the order of importance of what management, leadership competencies they think a Project Manager needs to possess in order to deliver successful projects:
➢ Achieving goal and objectives -32.50% of the respondents
➢ Managing Resources-30.00% of the respondents
➢ Managing the team-20.00% of the respondents
➢ Managing the project risk-2.5% of the respondents
➢ Stakeholder management-51.7% of the respondents
➢ Empowering team-2.50% of the respondents

During the data analysis of feedback on the participating respondents, it was revealed that the highest percentages for competency of managerial leadership were achieving goal and objectives (32.5%), and then managing resources (30%). This suggests that respondents placed the most value on this competency.

The data emphasized on the stakeholders' management was the most influential outcome as managerial leadership skill of Project Manager as described as Yang *et al.,* (2010); Aaltonen, (2011); Radujkovic(2017); Kipkoech (2018). Consideration managerial competencies, many scholars stated that best possible balance between competence management and task management (Loufrani-Fedida, 2016). Disparity, specifically, wider divergence was detected at managerial competencies related to teamwork, customer help and system mastery (Trivellas, 2013). On the other hand, less successful projects should improve their abilities associated with teamwork, stakeholders focus and system control to catch up with their opposite numbers who also suggested in this survey, empowering team was 2.50%.

Managerial leadership ability of project Manager

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	engaging communications	2	5.0	5.0	5.0
	Managing resources	12	30.0	30.0	35.0
	Empowering the team	1	2.5	2.5	37.5
	Managing the project risk	2	5.0	5.0	42.5
	achieve the project goals and objectives	13	32.5	32.5	75.0
	Managing the team	8	20.0	20.0	95.0
	Stakeholders management	2	5.0	5.0	100.0
	Total	40	100.0	100.0	
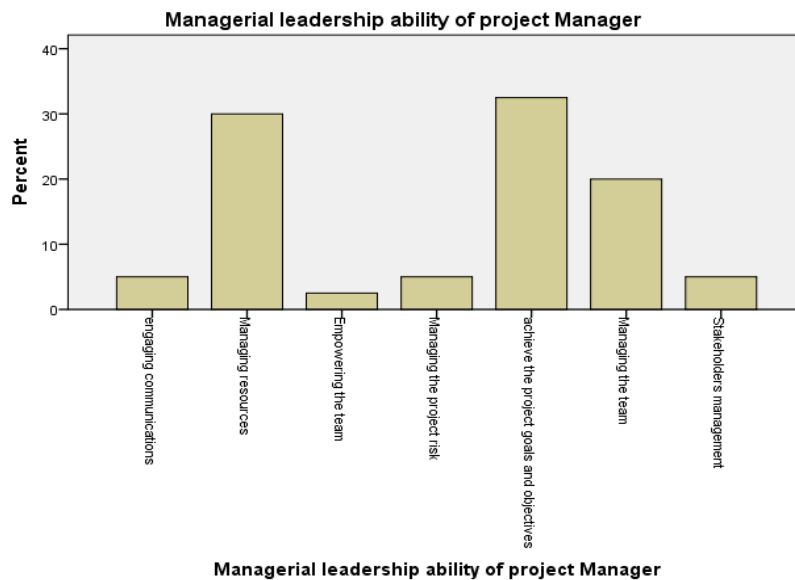
Figure 08: Leadership managerial skills of Project Manager

VIII. Order of importance: emotional leadership competencies

Above mentioned the respondents arranged in the order of importance of what emotional leadership competencies they think a Project Manager needs to possess in order to deliver successful projects:
➢ Motivation- 87.5% of the respondents
➢ Influence to others-7.50 of the respondents
➢ Conscientiousness-2.50 of the respondents Ranked
➢ Self-Awareness-2.50 of the respondents

Emotional leadership ability of Project Manager

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	self-awareness	1	2.5	2.5	2.5
	Motivation	35	87.5	87.5	90.0
	Influence to others	3	7.5	7.5	97.5
	Conscientiousness	1	2.5	2.5	100.0
	Total	40	100.0	100.0	

Figure 09: Leadership emotional skills of Project Manager

Analyzing the feedback on the participating respondents, it was discovered that the highest percentages for the competency of managerial leadership were motivation (87.5%). This suggests that respondents placed the most value on this leadership competency of Project Manager.

Motivation could be rated the highest emotional leadership competency among the respondents to make out the fact that most project professionals are confronted with the daily challenges of having to direct team members or other key stakeholders whom they bear no direct managerial authority over, and using motivation may be the only asset they are able to use to reach the project ends and aims. The project manager's ability to persuade and inform these team members or other key stakeholders is essential to the achiever of a project (Muller*et. al.,* 2012).

Self-awareness and conscientiousness could have assigned the lowest by respondents due to the nature of agriculture projects in public sector in Bangladesh. This could indicate that project professionals supposed that the other three competencies are much stronger powers to possess (influence, conscientiousness, self-awareness) to make out the nature of labor work, and if the ability to influence is effectively used. The concept of motivation may be very different in some literature; however, the source of motivation may be motivation in some contest (Dwivedula, 2010).

IX. Breakdown of leadership style used by respondents
The distribution of the responses by leadership styles employed by public officer who are working on agriculture projects is as follows:

➢ 52.50% - Democratic/Participative Leadership
➢ 20.00% - Charismatic Leadership
➢ 12.5% - People-Oriented/Relations-Oriented Leadership
➢ 7.50% - Situational Leadership
➢ 5.00% - Bureaucratic Leadership
➢ 2.50% - Autocratic Leadership
➢ 0% - Transactional, Transformational and Laissez-Faire Leadership

Leadership style need for Project Manager to success projects

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Democratic/Partipative Leadership	21	52.5	52.5	52.5
	People-oriented Leadeership	5	12.5	12.5	65.0
	Bureaucratic Leadership	2	5.0	5.0	70.0
	Autocratic Leadership	1	2.5	2.5	72.5
	Situational Leadership	3	7.5	7.5	80.0
	Charismatic Leadership	8	20.0	20.0	100.0
	Total	40	100.0	100.0	

Figure 10: Leadership style of Project Manager to success projects

Investigating the feedback on the participating respondents, it was indicated that the highest percentages for the competency of leadership style of the Project Manager were democratic (87.5%) style leadership. This suggests that respondents to be found the most value on this leadership style of Project Manager in public agriculture projects.

Many developing countries have scrutinized that transactional leadership style in the project industry was more likely to have success in projects than any other leadership style (Liphadzi*et. al.,* 2015). However, Taucean*et al.,* 2016 also declared in his research that people-oriented leadership style much successful than others in project management. On the other hand, transactional and situational style leadership gave significance influence in project success as leadership competencies of Project Manager (Muller and Turner, 2010). In addition Aga *et al.*, (2016) was positioning in regards of the leadership style of Project Manager was transformational leadership style. However, it can be said that the most often pointed and emerging tendency of the project management in public sector agriculture projects was democratic leadership style followed by Grzesik(2018) research.

X. Conclusion and Recommendations

An investigation was made to address the research objective and goals to find out the leadership skills of Project Manager as critical success factors in public sector agriculture projects in Bangladesh. The research study was also conducted by reviewing the most relevant literature pertaining to both leadership and project leadership style.

Regarding the leadership competencies of project managers, it also pronounced that strategic importance as intellectual, achieving goals and objectives and managing resources as managerial leadership ability and the motivation as emotional ability are the leadership competencies in the public sector agriculture projects. Mostly identified that democratic leadership nature were found in project manger's leadership nature.

By studying the leadership competencies of Project Manager as a critical success factor to project success, this study has contributed to the existing physical structure of literature on critical success elements for projects, and benefits both project practitioners and project-oriented establishments in public sector agriculture in Bangladesh.

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