

Perception Of Leadership Skill In Delivery Of Construction Projects

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Abstract: A leader is someone who sets direction in an effort and influences people to follow that direction. It is important to have skills in forming, leading and facilitating a project team. The aim of this study is to identify the most important leadership skill required for delivery of construction projects. Projects are conceived and completed by people, who are involved in the whole process of project execution and completion. Thus, project management not only requires an efficient project manager, but also a qualified leader who can lead the team effectively.

The aim of this study is to identify the most important leadership skill required for successful delivery of construction projects.

The study concluded that construction industry leaders influence the success of the delivery of construction project positively and it can be acquired through never-ending training, education and learning. Also it concluded that personal factors have an important influence on the effectiveness of the leaders and the lack of good leadership skills may lead to construction project failure.

I. INTRODUCTION

There is no doubt that construction is a key activity within any economy. Improving construction project productivity is a major concern for any profit-oriented organization. In order to improve productivity, a study of the factors affecting it whether positively or negatively is necessary. Making use of these factors that positively affect productivity and controlling factors that have a negative effect, will ultimately improve the productivity.

Leadership is one of the most important factors that affect the delivery of construction project; this research mainly focuses on the perception of leadership skill in delivery of construction project. Project management and effective leadership continue to impact the success or failure of a project, as any project's success is generally defined on the basis of time, cost, or quality performance. We cannot diminish the impact of key individuals on the project's ultimate success or failure. Identifying key personnel

characteristics and attributes serving to enhance or detract from the likelihood of construction project success or failure is a subject in which little formal research has been completed.

The success of a construction project depends on several factors, one of which is the competencies of project managers. Their personalities, characteristics, skills and leadership styles also have much impact on project outcomes. Effective leadership is essential for construction projects. A major task of the project manager is to provide effective leadership throughout the life of a construction project (Gharehbaghi and McManus, 2003). Normally, a project is expected to be completed on time, within budget and meet with technical specification or customer satisfaction.

Construction companies must utilize planning, organizing, leading and controlling, which are known as the four basic management functions. Project managers should be able to carry out these functions in order to successfully manage projects. Researchers in construction management have unequivocally reiterated the fact that project manager is

one of the most important success factors of projects. Herbert et al. (1970) have gone to an extent of quantifying cost saving of as much as 10% through a well-qualified manager (Herbert et al., 1970). Little attention has been given in the leadership issues in construction (Bresnen et al., 2006) despite the fact that there is so much literature and research in other industries. Langford et al. believe that the low volume of leadership related studies in construction is due to the lack of understanding of knowledge of the industry on the part of social scientists and lack of understanding of the social sciences by those in the industry (Langford, 1995).

Researchers have stressed on the importance of leadership skills and have given a lot of suggestion on the characteristics, attributes and skills that can be effective in the construction industry. Goodwin stresses the importance of effective leadership and points out the skills required of effective project managers (Goodwin, 1993).

Study of leadership style and their effectiveness in managing projects is quite relevant to construction industry because construction managers have to wear different hats at different circumstances. Rowlinson et al. (1993) found that construction managers displayed supportive style in feasibility study and pre-contract stages of works eventually transforming to directive styles as construction progressed. Although it is extremely difficult to establish the cause-effect relationship of particular leadership style to the effectiveness of the project, however there are many studies that have been undertaken in the past that provide correlation between the styles of leadership exhibited and the performance of the project.

Monaghan (1981) observed that project managers who were high in task and low in people consideration produced an acceptable level of commercial performance. In a similar study by Fraser (2000) project managers who scored high on the effectiveness scale favored team-style leadership where as those who followed a production style leadership scored the lowest of all. Those using a compromise leadership skill had middle range effectiveness score.

II. AN OVERVIEW OF LEADERSHIP

There are many diverse definitions of leadership. The leadership definitions are based on the importance of leadership, factors affecting the leadership and leadership improvement.

Farmer and Aguinis (2005) mentioned that there are alternative definitions of leadership, for example Yuki and van Fleet (1992) defined leadership as a process through which power is used to direct and coordinate the activities of group members to meet a goal and objective.

Hirtz et al. (2007) defined leadership as the process by which managers influence subordinates to work toward organizational goals. Supervisory leadership is defined as a behavior intended to provide guidance, support, and corrective feedback for the day-to-day activities of work unit members (House and Aditya, 1997).

Hogan et al. (1994) defined leadership as a process that involves persuading other people to set aside for a period of time their individual concerns and to pursue a common goal

that is important for the responsibilities and welfare of a group. Leadership is partly a function of skilful deployment of personal qualities but probably more of the interactive processes between leaders and their followers and the more general processes through which purpose and commitment are generated and sustained within an organization (Pettigrew, 1979 in Bjerke, 1999).

Yuki (2006) defined leadership as an influence process that makes other understand and agree to what need to be done, how things should be done, and the processes that make individuals and groups to be able to meet mutual goals.

Gharehbaghi and McManus (2003) mentioned that leadership is vision, motivation, organization, and action. Good leaders developed through a never-ending process of self-analysis, and the utilization of education, training, and experience to improve.

Kirkpatrick and Locke (1991) mentioned that leadership motivation involves the desire to influence and lead others and is often equated with the need for power. People with high leadership motivation think a lot about influencing other people, winning an argument, or being the greater authority. The leader must want to gain the power to exercise influence over others. Effective leaders must give power to others as a means of increasing their own power.

Gharehbaghi and McManus (2003) also defined leadership as a complex process by which a person influences others to accomplish a mission, task, or objective and directs the organization in a way that makes it more cohesive and coherent.

III. QUALITIES OF A GOOD LEADER

There are a number of qualities that are important in being a good leader. Overall, a good leader must have integrity, enjoy working with people and have basic communication skills.

LEADERSHIP TRAITS ESSENTIAL IN BECOMING AN EFFECTIVE LEADER

VALUES

Effective leaders value trust and respect themselves and others. If a leader is not always honest, whatever he or she says may be questioned. Instruction, criticism and even compliments could be examined for hidden meaning. And if a leader consistently associates with dishonest people, respect and support can be lost.

VISION

Effective leaders have a clear vision for the future - a goal to accomplish, and a general idea of how that vision can be fulfilled.

PASSION

Effective leaders have to be passionate about fulfilling the vision or achieving the goal. If the leader appears not to care

about the goal, chances are that the group will not care either. The passion of the leader is a primary motivator for the group.

Sometimes the basic goal or vision is pre-determined. A manager may be told by a superior what his or her team needs to accomplish. In this case, effective leadership could suffer greatly if the manager does not take on that vision or goal as his or her own.

STRONG PEOPLE SKILLS

Effective leaders have to like working with people. Being a leader implies having followers. A leader who would rather work alone and limit his or her interaction with other members of the group could easily be seen as unapproachable. Problems often arise when the leader is not actively involved in group activities. (Of course a balance must be struck between being an absentee leader and a micro-manager).

Good leadership skills involve motivation, team-building, conflict resolution and the best utilization of group member strengths. This is very hard to do without some knowledge of each team member and how they interact with the group.

A good leader also sees the value of including group members in decision-making. Encouraging them to help refine the vision and offer suggestions for the best ways to fulfill it inspires a feeling of ownership. If group members feel they are a part of the process, they will have a vested interest in its success.

STRONG COMMUNICATION SKILLS

Effective leaders have basic communication skills. They understand the importance of body language, tone of voice, listening skills and clear, concise information content. This makes it much easier to avoid many communication problems.

ABILITY

Effective leaders have to be able to anticipate, organize and solve problem. A good leader keeps an eye on the "big picture," anticipating potential problems that could affect the overall vision or goal. They also organize the operations of the group as a whole, coordinating individual efforts. Problem-solving is also a large part of good leadership skills. Any problem that cannot be solved by individual group members will – and should - be brought to the leader.

Good leadership skills include all of the above traits. If one is missing, effective leadership can be undermined.

IV. THEORIES OF LEADERSHIP

Among the various theories of leadership and motivation relating to effective organizational change management, perhaps the most prominent is the transformational-transactional theory of leadership. As explained in Saowalux and Peng (2007), Burns (1978), it conceptualizes two factors to differentiate "ordinary" from "extraordinary" leadership: transactional and transformational leadership. Transactional leadership is based on conventional exchange relationship in which followers' compliance (effort, productivity, and loyalty)

is exchanged for expected rewards. In contrast, transformational (extraordinary) leaders raise followers' consciousness levels about the importance and value of designated outcomes and ways of achieving them. They also motivate followers to transcend their own immediate self-interest for the sake of the mission and vision of the organization.

Such total engagement (emotional, intellectual and moral) encourages followers to develop and perform beyond expectations (Burns, 1978; Bass, 1985). Burns (1978) observes that transformational leadership involves the process of influencing major changes in organizational attitudes in order to achieve the organizations objectives and strategies. Bass (1985) observed that transactional leaders work their organizational cultures following existing rules and procedures, while transformational leaders change their cultures based on a new vision and a revision of shared assumptions, values and norms. When an organization must adapt to changes in technology, its leadership is a critical factor in its successful change.

Bass (1985) operationalized the work of Burns (1978) by developing a model of transformational and transactional leadership, referred to in more recent publications as the "full range leadership model" (Bass and Avolio, 1997).

A. TRANSFORMATIONAL LEADERSHIP

The difference between transformational and transactional leadership lies in the way of motivating others. A transformational leader's behavior originates in the personal values and beliefs of the leader and motivates subordinates to do more than expect (Bass, 1985). Burns (1978) identified transformational leadership as a process where, "one or more persons engage with others in such a way that leaders and followers raise one another to higher levels of motivation and morality".

For transformational leadership style, the follower feels trust, admiration, loyalty and respect towards the leader, and is motivated to do more than what was originally expected to do (Bass, 1985; Katz & Kahn, 1978). The transformational leader motivates by making follower more aware of the importance of task outcomes, inducing them to transcend their own self-interest for the sake of the organization or team and activating their higher order needs. He encourages followers to think critically and seek new ways to approach their jobs, resulting in intellectual stimulation (Bass et al., 1994). As a result, there is an increase in their level of performance, satisfaction, and commitment to the goals of their organization (Podsakoff et al, 1996).

Bass (1990) proposed four behaviours or components of transformational leadership to include charisma, inspirational motivation, intellectual stimulation, and individual consideration. Charisma, or idealized influence or attributes, is characterized by vision and a sense of mission, instilling pride in and among the group, and gaining respect and trust (Humphreys & Einstein, 2003).

Charismatic behaviour also induces followers to go beyond self-interest for the good of the group, providing reassurance that obstacles will be overcome, and promoting confidence in the achievement and execution influence

(Conger and Kanungo, 1998; Howell and Frost, 1989) and followers place an inordinate amount of confidence and trust in charismatic leaders (Howell and Avolio, 1992).

Inspirational motivation is usually a companion of charisma and is concerned with a leader setting higher standards, thus becoming a sign of reference. Bass (1985), points out followers look up to their inspirational leader as one providing emotional appeal to increase awareness and understanding of mutually desirable goals. This is characterized by the communication of high expectations, using symbols to focus efforts, and expressing important purpose in simple ways. The leader always behaves talking optimistically about the future, articulating a compelling vision for the future and providing an exciting image of organizational change (Bass and Avolio, 1994). The motivation occurs by providing meaning and challenge to the followers' work; individual and team spirit are aroused and enthusiasm and optimism is displayed. The leader encourages followers to envision attractive future states, for the organization and themselves (Bass et al, 1997).

Intellectual stimulation provides followers with challenging new ideas and encourages them to break away from the old ways of thinking (Bass, 1985). The leader is characterized as one promoting intelligence, rationality, logical thinking, and careful problem solving. The attributes include seeking differing perspectives when solving problems, suggesting new ways of examining how to complete assignments and encouraging re-thinking of ideas that have not been questioned in the past (Bass and Avolio, 1994). The leader encourages the followers to be innovative and creative by questioning assumptions, reframing problems, and approaching old situations in new ways.

Finally, the fourth dimension of transformational leadership is "individual consideration" which is concerned with developing followers by coaching and mentoring (Bass, 1985; Bass & Avolio, 1990). The leader pays close attention to the inter-individual differences among the followers and act as mentor to the follower. He teaches and helps others develop their strengths, and listens attentively to others concerns (Bass and Avolio, 1994). Followers are treated individually in order to raise their levels of maturity and to enhance effective ways of addressing their goals and challenges (Bass, 1985).

B. TRANSACTIONAL LEADERSHIP

Transactional leadership involves an exchange process that results in follower compliance with leader request but not likely to generate enthusiasm and commitment to task objective. The leader focuses on having internal actors perform the tasks required for the organization to reach its desired goals (Boehnke et al, 2003). The objective of the transactional leader is to ensure that the path to goal attainment is clearly understood by the internal actors, to remove potential barrier within the system, and to motivate the actors to achieve the predetermined goals (House and Aditya, 1997).

Transactional leaders display both constructive and corrective behaviours. Constructive behaviour entails contingent reward, and corrective dimension imbibes management by exception. Contingent reward involves the

clarification of the work required to obtain rewards and the use of incentives and contingent reward to exert influence. It considers follower expectations and offers recognition when goals are achieved. The clarification of goals and objectives and providing of recognition once goals are achieved should result in individuals and groups achieving expected levels of performance (Bass, 1985). Active management by exception refers to the leader setting the standards for compliance as well as for what constitutes ineffective performance, and may include punishing followers for non-compliance with those standards. This style of leadership implies close monitoring for deviances, mistakes, and errors and then taking corrective action as quickly as possible when they occur themselves (Bass et al, 1997).

C. LEADERSHIP SKILLS

Adrian (2004) mentioned two main reasons that cause a failure in the construction productivity improvement programs:

1. The managers/leaders in the construction company often focus on short term results rather than focus on the long term. The construction industry's focus on the short term is caused by the fact that the industry constructs projects. Often the managers measures result/output by means of focusing on project profits; the profit center is a project. Such a focus on short-term results may lead to frustration if efforts are made to improve productivity and benefits are not immediately measurable. It is important to remember that productivity improvement is often more of a marathon.

2. One has often heard statements such as in order for a new program or effort to work; "top management" must support the program. One might propose that a program or new effort has a better chance of succeeding if "top leadership" supports and drives the program. "Managers", not "leaders", frequently administer productivity improvement programs. Managers typically possess the important skills such as planning, directing, measuring, and monitoring.

While these are important skills of the construction supervisor, individuals that possess vision, motivation, team building, pride, and trust are skills of individuals that administer productivity programs that work. These skills are typically more identified as "leadership skills".

Kouzes and Posner (1987) in Locke (1991) defined vision as an ideal and unique image of the future. Kirkpatrick and Locke (1991) mentioned that leadership motivation involves the desire to influence and lead others and often equated with the need for power and people with high leadership motivation think a lot about influencing other people.

Adrain (2004) also explained how the leadership skills apply to the implementation of a successful construction productivity improvement program through:

- ✓ Leaders are Idea Driven and are Visionaries
- ✓ Leaders Focus on Processes and Planning for the Desired Result
- ✓ Leaders are Team Builders, They Seek and Obtain Consensus from Participants
- ✓ Leaders are Consistent, But Flexible
- ✓ Leaders do not Accept Failure, They are Not Whiners or Blamers; they are Problem Solvers and Opportunists.

Gharehbaghi and Mcmanus (2003) mentioned that good leadership in construction is a result of the effective use and implementation of the important skills such as:

- ✓ Understanding the needs and characteristics of the post;
- ✓ Knowing and using of the resources of the group effectively;
- ✓ Effective communication and planning;
- ✓ Controlling team performance.

D. LEADERSHIP STYLES

Each leader has a leadership style with which he/ she feels comfortable, different people require different styles of leadership. Therefore leaders may have to switch to a different style of leadership style depends on many factors like, organizational structure, project type, objectives and goals, time availability, team and individual knowledge and skill, and motivation level of the team (Gharehbaghi and McManus, 2003).

There are many type of leadership styles, the most common types according to Gharehbaghi and McManus (2003) are:

- ✓ Official style: Depends on rules and directives, preferably in writing. The leader tends to be fair and impartial when functioning well, uses an impersonal style, and knows the right way to get things done (Hiebert, 2001).
- ✓ Expert style: Operates from personal experience; has skills needed to perform work. The leader feels there is no substitute for preparation and practice is able to demonstrate how to perform a task, tends to give directions based on what he says, and acts directly to get results under pressure (Hiebert, 2001; Leithwood, 1999).
- ✓ Coach style: Maintains personal relationships with each staff member. The leader tries to build trust, sets mutual goals with each staff member, encourages but also expresses disappointed when a person fails to meet goals (Leithwood, 1999).
- ✓ Democratic style (team builder style): Uses work group for both motivation and discipline. The leader stresses openness and consensus, tries to achieve balance between group choices and organizational goals, shares responsibility with the group but makes sure that organization's expectations are achieved, believes that the team is powerful, involves group members in planning and carrying out activities (Hiebert, 2001; Emad, 123 Olmstead, 2000).
- ✓ Autocratic style: The leader tells others what to do, limit discussion on ideas and new ways of doing things, and the group does not experience feeling of team work (Hiebert, 2001; McMahan, 2001).
- ✓ Laissez style: The leader gives little or no direction to group/ individuals, opinion is offered only when requested, and an individual does not seem to be in charge (McMahan, 2001).

Gharehbaghi and McManus (2003) also demonstrated the major influences in determining the leadership style to be used as shown in figure 2.4. Each of the leadership styles has impact on reforming and / or creating company or project culture. There are short and long-term effects of each style. For instance, the authoritative style may produce great results

in short amount of time. However, excessive use of authority will decrease productivity in long-term. People either get fed up and leave or fall into a dissatisfaction of everyday repetitive tasks without creativity and innovation.

On the other hand, a participative style will be unproductive in short term but the longer this style of leading, the more productive a company is.

Many leaders never make it to a point of high productivity. They give up before the participative style kicks in and the company/project start to escalate. They see the initial drop in production and cannot wait long enough for the true results.

There are three keys that determine the choice of leadership style:

- ✓ How the leader views and uses authority?
- ✓ How the leader views and uses human resources?
- ✓ How the leader views and relates to people?

The more the leader keeps control, the more authoritative his style, the more the leader shares control the more participative his style of leadership. To see if the leaders and the employees are moving toward a more authoritative or a more participative leadership style, the following questions should be asked:

- ✓ Are employees involved in the planning process;
- ✓ What percentage of total employees know the goals and objectives for the project;
- ✓ Do employees feel ownership and trusted;
- ✓ Are relationships between leaders and employees good most all the time?

V. IMPORTANCE OF LEADERSHIP IN CONSTRUCTION PRODUCTIVITY IMPROVEMENT

Construction is a people industry. There is a strong link between the leadership and construction productivity. As mentioned before, productivity is simply a measure of the ratio between the output of a process and the input of resources needed for it. It is usually expressed as output divided by input. There are five ways to improve productivity:

- ✓ Increase input with a greater increase in output.
- ✓ Maintain input but increase output.
- ✓ Decrease input with a smaller decrease in output.
- ✓ Decrease input with maintains output.
- ✓ Decrease input but increase output

A good leadership and supervision in construction projects increased the productivity through decreasing production costs, reducing time required for the operation, improving profit, improving the quality of product and increasing the utilization and conservation of resources.

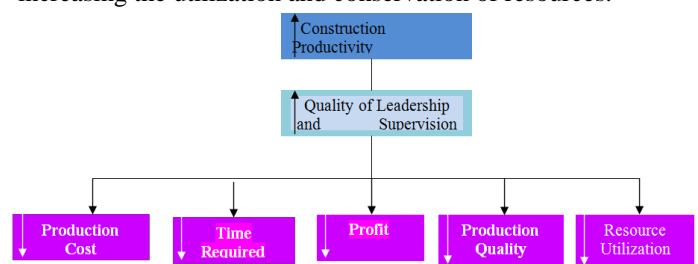


Figure 1: relation between leadership and construction productivity

Figure 1 shows how construction project productivity could be achieved and improved through leadership control.

An increase in quality of leadership and supervision results in improved quality of products and services, decrease in production cost, time required for the product and improved market share and profit. The cost of any product or service is the sum of the costs of the resources used in producing it. The more productive each of those resources can be made, the lower the final cost of the product. In a free market, the lower the cost of a product, the greater the demand it generates and the more the organization profit, with ultimately a beneficial effect on the living standards of everyone. A better utilization of resources is just one of the results of increase in quality of leadership and supervision. According to Sumanth (1985), the cycle for productivity improvement involves four phases.

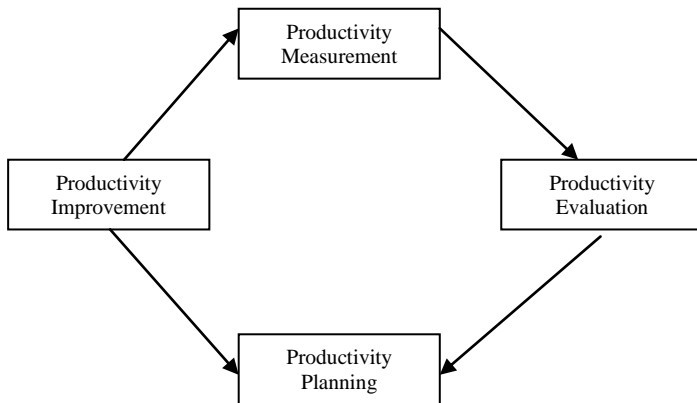


Figure 2: The productivity Cycle (Sumanth, 1985)

Figure 2 shows the productivity measurement, productivity evaluation, and productivity planning and productivity improvement.

The productivity cycle concept shows that productivity improvement and productivity planning must be preceded by measurement and evaluation (Sumanth 1985). Leaders may affect productivity improvement through their decision or actions that should be taken to improve productivity, after their study and observation for the productivity measurement and evaluation. The effect of leaders on productivity improvement is illustrated in figure 2.3, showing another cycle for improvement known as (Plan-Do-Check-Act) (PDCA) (ISO 9000).

5.1: LEADERSHIP IMPROVEMENT CYCLE

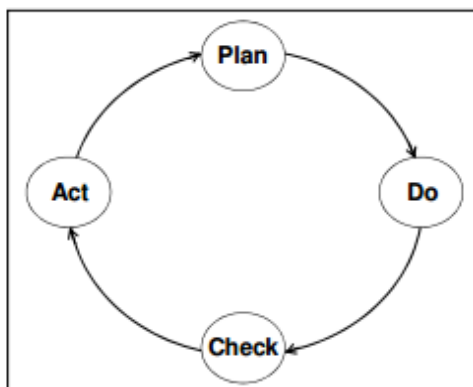


Figure 3: Improvement Cycle (ISO 9000)

PLAN: The leaders establish the objectives, processes, methods, resources and procedures necessary to deliver results in accordance with customer requirements and the organization's policies.

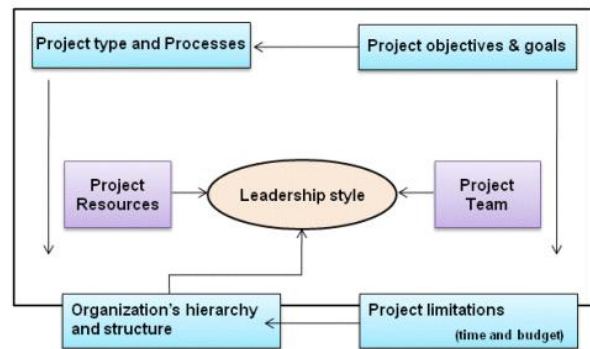
DO: Implement the processes through the team work.

CHECK: Monitor, measure, compare and analysis processes and product against policies, objectives and requirements for the product and report the results through the team work.

ACT: Take actions through the leaders to continually improve process performance.

Abd El Razel (2004) mentioned that construction company productivity are determined by has several factors

The first step to improve construction productivity is to determine the factors that affect the productivity. Only when these factors are properly and accurately identified, easier steps could be taken to improve productivity.



Source: Charehbaghi and McManus (2003)

Figure 4: Leadership Style Influences

VI. FACTORS AFFECTING CONSTRUCTION PROJECT PRODUCTIVITY

Many researchers have identified the factors that affect construction project productivity. Abd El Shakour (1994) grouped factors that affect productivity into four main categories:

- ✓ Industry related factors; Varied location, Weather, Economic & Investment, Research & Development, Size of Firm, Building Code.
- ✓ Project related factors; Project design, The required degree of quantity and specification, Construction method & the use technology, Size of job, Total duration of the project, Available work area, Type of contract, Building element, Design change, Type of project.
- ✓ Management related factors; Planning & scheduling, Control, Project organization, Leadership & Supervision, Communication, Size layout, Material & tool, Work redoing, Decision making, Motivation of workers .
- ✓ Labor related factors; Labor availability, Labor skills, Work rules of labor Union, Size of crew, Risk of work accident, Labor capabilities.
- ✓ Government related factors; Safety regulation, Health regulation, Insurance regulation.
- ✓ Marketing related factors; Shortage of materials, Lack of market data, Market uncertainly.
- ✓ Training related factors; Training increase the labor skills

- ✓ Other factors; Social, Economical & political aspect; Subcontracting; Labor turnover, absenteeism & breaks; Length & number of shifts.

VII. RECOMMENDATION

There is a strong case for construction companies to invest more in leadership development programmes tailored specifically for the delivery of construction project professionals.

These leadership development programmes should include education and training (particularly communication skills and general management training), work experience and mentoring schemes. They should also include strategies for identifying the leaders of the future, and for rewarding and celebrating success. It is believed that if the industry is to develop leaders of the future, then construction must look to positively develop its working cultures; and break down any organizational barriers that don't recognize, and provide opportunities for those that show leadership potential.

The research identified that recognition of effective and successful leaders within the construction industry would help to promote leadership and inspire others.

Self motivation and inspiration were regarded as key factors in developing leadership potential. Celebrating and communicating leadership success, which raises an individual's profile should also be continued where it exists, and developed where it doesn't.

REFERENCES

- [1] Abd Elshkour, H. (1994). Improving productivity of construction projects via improving on-site construction management." A thesis submitted to Zagazig University in partial Fulfillment of the requirements for the Master of Science degree.
- [2] Andi, A., Santoso, WK. and Tali, RC. (2004) Basic, Actual and Effectiveness of Leadership Styles of Construction Project Managers in Surabaya. Civil Engineering Dimension: Journal of Civil Engineering Science and Application, Vol. 6(1) pp. 32-39.
- [3] Bresnen, M.J., Bryman, A., Beardsworth, J. Ford and E. Keil. (1986). Leader Orientation of Construction Site Managers. Journal of Construction Engineering and Management, Vol. 118(3) pp. 370-386.
- [4] Enshassi A, Mohamed S, Mustafa AZ, Mayer PE (2007). Factors affecting labour productivity in building projects in the Gaza Strip". Journal of Civil Engineering and Management, 4, 245-254.
- [5] Farmer, Steven M, Aguinis, Herman (2005). "Accounting for subordinate perceptions of supervisory power: An identity-dependence model." Journal of Applied Psychology, 90, 1069-1083.
- [6] Fraser, C. (2000). The Influence of Personal Characteristics on Effectiveness of Construction Site Managers. Journal of Construction Management and Economics. Vol. 18(1) pp. 29-36.
- [7] Gharehbaghi, K. and McManus, K. (2003). Effective construction management. Leadership and Management in Engineering, 3: 54-55
- [8] Herbert, A., Martvall, K., and Wirdenius, H. (1970). Site Management and Production Disturbances. Build Tech Manage. 7 p p .19-20.
- [9] Hersey, P., Blanchard, K., & Johnson, D. (2008). Management of Organizational Behavior: Leading Human Resources, 9 th Ed., NJ: Pearson Education.
- [10] Hirtz, Paul D, Susan L. Murray, Catherine A. Riordan (2007). "The effects of leadership on quality". Engineering management journal, 19(1), 22-27
- [11] Langford, D. A., Fellows, R., Hancock, M., and Gale, A. (1995). Human Resource Management in Construction, Longman, London.
- [12] Mohammed MH (1996). "Labor productivity in the Egyptian construction industry". A thesis submitted to Cairo University in partial fulfillment of the requirements for the master degree
- [13] Monaghan T.J. (1981). An Investigation of Leadership Styles and Organizational Structure, and Their Influence on the Conduct of Construction Projects. MSc. Thesis. Heriot-Watt University.
- [14] Rowlinson, S., Ho, T., Yun, P.K. (1993). Leadership Styles of Construction Managers in Hong Kong. Journal of Construction Management and Economics. Vol. 11 pp. 455-565.
- [15] Schermerhorn, J.R. (1986). Management for Productivity, 2nd Ed., John Wiley & Sons.
- [16] Sumanth DJ (1985). Productivity Engineering and Management, McGraw Hill Book Co., New York.
- [17] Sumanth DJ (1998). Total Productivity Management, CRC Press LLC., US
- [18] Toor, S.R., Ofori, G. (2008). Leadership for Future Construction Industry: Agenda for Authentic Leadership. International Journal of Project Management, Vol. 26 pp. 620-630
- [19] Yuki G, Vanfleet D (1992). "Theory and research on leadership in organizations". In M.D. Dunnette and L.M. Hough (Eds). Handbook of industrial and organizational psychology Vol. (3), 148-197.