An Exploration of Critical Success Factors of Virtual Distributed Projects

دراسة حول عوامل النجاح الحاسمة للمشاريع الافتراضية
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ABSTRACT ENGLISH

The present report executed provides in-depth analysis and evaluation of critical success factors of Virtual Distributed Projects. For this, the entire research process has been properly aligned by presenting work of academic scholars and authors. Through this, the emphasis is made on understanding the concept of project, project management, distributed projects and virtual teams. Further, the research work is further done by exploring the critical success factors which contribute in the accomplishment of projects. These are inclusive of Risk Management, Team Motivation, Planning, Strong Project Closure, Clarifying Objectives, Technology, Selection of Team Members and Management Support.

The report has been structured appropriately were Research Methodology has been applied to the work so that investigators get facilitated with the way through which entire study can be structured in appropriate manner. The tools used are research approach, philosophy, data collection tools, sampling and data analysis. This has assisted in acquiring various facts about the significance of virtually distributed projects. Along with the same, different advantages that leaders working in the organization can have through virtual team has been worked out specifically. By assessing critical success factors, the understanding pertaining to the advancement that virtual projects can offer has been investigated thoroughly.

The report also researched the fact that the analysis conducted on exploring critical success factors of virtual distributed projects also has some limitations. It is found that people do not participate in virtual distributed projects due to small scale of their working operations. Further, the study also supported some of the recommendations regarding the role of team activities in strengthening team cohesiveness so that development of team in integration to achieve the successful implementation and execution of virtual distributed projects can be worked out in better way to gain the advantage of enhanced organizational outcome and profitability through advancement and progress. This is how the entire research work has been designed and undertaken.

ABSTRACT ARABIC

يقوم هذا التقرير بإجراء تحليل متعمق للعوامل النجاح الحاسمة للمشاريع الافتراضية الموزعة وتقييمها. وقد انصبت عملية البحث على تقديم ما قام به الأكاديميون والمؤلفون في هذا الشأن. ووفقاً لذلك، فقد ركز البحث على فهم مفهوم المقصود بالمشروع، وإدارة المشاريع، والمشاريع الموزعة، والفرق الافتراضية. علاوة على ذلك، يكشف البحث عوامل النجاح الحرجة التي تسهم في إنجاز المشاريع. ويشمل ذلك إدارة المخاطر، وتحفيز الفريق، والتخطيط، والإنهاء القوي للمشروع، وتحديد الأهداف، التكنولوجيا، واختيار أعضاء الفريق ، دعم الإدارة.

وقد تم هيكلة التقرير بشكل ملائم بحيث تم صياغة منهجية البحث بشكل يبسط المعلومة للباحثين من خلال تقسيم الدراسة بشكل ملائم. وتشمل الأدوات المستخدمة منهج البحث، والفلسفة، وأدوات جمع البيانات، وإجراء عينات، وتحليل البيانات. وقد ساعد هذا في الحصول على حقائق مختلفة حول أهمية المشاريع الافتراضية الموزعة، بالإضافة إلى إمكانية استفادة قادة المنظمات من مزايا المشاريع الافتراضية الموزعة بواسطة فريق افتراضي معني به. ومن خلال تقييم عوامل النجاح الحرجة، فإن يمكن فهم المشاريع الافتراضية بشكل كامل.

كما بحث التقرير حقيقة التحاليل التي أجريت لاستكشاف لفحص وجود بعض القيود لعوامل النجاح الحاسمة للمشاريع الافتراضية الموزعة. ووجد أن الأفراد التي لا تشارك في المشاريع الافتراضية الموزعة نتيجة لصغر حجم العمليات عملهم. علاوة على ذلك، دعمت الدراسة بعض التوصيات المعنية بدور أنشطة الفريق في تعزيز تماسك الفريق وتطويره، وهو الأمر الذي يسهم في التنفيذ الناجح للمشاريع الافتراضية الموزعة والعمل بطريقة أفضل للاستفادة من تحسين الأثر المؤسسي والربحية وما ترتبط به من رقي وتقدم. وما تقدم ذكره، هو الطريقة التي صمم وأجري بها البحث.

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1.0 INTRODUCTION

Every year, project management makes leaps and bounds in improving the amount of time staff spend on a project, transparency of communication among staff, bottleneck prevention and the optimal use of non-human resources according to Seymour & Hussain (2014). Advances in technology have made it possible to allow the project management team to increase efficiency by accurately measuring exactly how much time a particularly aspect of the project takes. They have made it possible for staff to communicate quickly and efficiently with one another with regular updates, to make it impossible for lack of information to reduce the efficiency of the project (Perumal & Bakar, 2011). This dissertation focuses on an integral aspect of project management – one that has been greatly influenced by such technological advancements – virtual distributed projects. Over the years, virtual distributed projects have become easier to implement, and even in some cases necessary. In order to implement these virtual distributed projects, it is important to understand in depth the critical success factors that contribute to virtual distributed projects. In addition to that, encouraging the use of virtual distributed projects in the U.A.E is highly revolutionary as the country is heavily focused on such projects for economic based improvement. This dissertation will enable the researcher to identify and analyze the various factors that might play a major role in enabling the success of virtual distributed projects. The researcher will evaluate the factors on different parameters and attempt to understand whether or not they are integral to the success of project management teams that have employed virtual distributed project management.

1.1 WHAT IS A PROJECT

The term 'project' has a lot of definitions, Julie and Franck (2005a) project is a process which is temporary and is initiated to attain objectives set before it was even started. Another definition given to project is that it is a set of planned procedures which have a beginning and an end (Bojnord, & Afrazeh, 2006). These planned procedures are bounded by resources and time. There are several steps which compose of a single project. The term project does not have one meaning; it can vary from one person to another, just as opinions do; with relation to that, in another journal written by (Whelton, 2004), defining the term has three different stages which are determining the term project purposes, translating those objectives into a criteria for designs and then generating finalized concepts. In the words of Crawford and Pollack (2005), a project can be considered as a profession and an area in which research undergoes continuous progress and development. It indicates that project management is a continuous process. A continuous process like project management requires the constant intervention of the staff that make up the project management team, which is why constant vigilance in the course of the project is an important aspect of project management. Each and every member of staff should be constantly vigilant to the needs of the rest of the team (Perumal & Bakar, 2011).

Kahkonen (2013) in his paper gives various attributes of a successful project. These attributes are descriptive characteristics of a project such as goal, phase, duration, requirement, risk, scope etc. When a project leader presents a project to stakeholders, it is important that the goals are clear, the project charter is well defined, the requirements are met, the methodology is proven to have worked before and the application software is not bugged. Above all, there should be a strong and experienced project manager that is handling the resources of the team, the team which in itself should be experienced as well (Usman, Kamau & Merari, 2004). There can be however various risks in each attribute and there should be well planned risk aversion. For instances, one risk in executive sponsorship is that if not supported completely by various parts of the company, it will not be possible to shift the habits

and behaviors across the organization. This would lead to falling apart of the organization without completion of project goals (Bojnord & Afrazeh, 2006). The risk can be averred by parameters of communications, visibility and participation within the committee as well as important project meetings etc. aspects such as allocating the employee on the basis of their ability to various aspects of the project becomes very important to fulfill the duties needed by experienced project manager (Bojnord & Afrazeh, 2006). Thus risk assessment and management becomes a strong attribute on its own.

Even if the project is well planned, accidents are inevitable according to Bhumkar, Deotare & Babar (2012). To overcome worst case scenarios, a risk analysis will have to be conducted, which will make sure the employees working in the project will be ready to overcome any obstacle, natural or manmade (Bhumkar, Deotare & Babar, 2012). Finally a communication flow will have to be organized; in relation to that, it is of high importance that techniques related to planning, controlling and communication systems be implemented for ensuring success of the project (Munns & Bjeirmi, 1996). There are several teams which work together for the success of a project (Tarricone & Luca, 2002). Progression, accidents, mishaps, complaints, notifications, announcements will reach departments through a communicational flow, which may be a single flow that is from top to bottom or both ways (Kahkonen, 2013). The overall project planning phase is deeply affected by asking the right questions. These questions including asking what the resources of the project are, how the resources will be used, over how much time they will be used and most importantly – the overall budget that the project leaders will be using for the project (Bojnord & Afrazeh, 2006). These questions will make it much easier to protect the interests of the stakeholders as it will eliminate many risks from occurring during the course of the project (Bojnord & Afrazeh, 2006).

1.2   WHAT IS A PROJECT MANAGEMENT

Project Management can be defined as a set of different steps and methodologies through which a project can be carried out successfully (Bryde, 2013). Tools and methods of project management are critical. Several steps of project making form a sequential ladder which will flow from the initiation stage, planning stage, the executing stage, the monitoring, controlling and closing stages (Bryde, 2013). These steps executed together the term 'project management' (Bryde, 2013). In other terms, project management is a discipline that requires for the involved actors to focus on improving the strategy from the boardroom located in the offices to the market place (Longman & Mullin, 2004). Project defines the content of the work that undergoes for a specific rationale whereas the process of its execution, taking care of each step at each point of its formation is management of the project (Ruel et al, 2010). Thus, project management is the necessary set of steps taken to ensure the project progresses smoothly. There are several types of project management techniques (Ruel et al, 2010).

The waterfall method is a project management technique which is implemented by the project manager for a linear approach. In this method, the project manager divides the responsibilities to each and every group, thus the objectives is clearly defined for each group (Scheid, 2015) In this step, the project manager first determines the requirements of the project, and then develops the project. The project concept is then tested on and then modified (Ruel et al, 2010). The original project model is then implemented by the project manager; it is a very conventional, linear and a sequential based approach to project management, this is called the waterfall method (Ruel et al, 2010, Maheshwari & Jain, 2014).

The next type of project management is called the agile approach. In contrast to the piece by piece construction of the project steps, the agile approach will present an already constructed project setup which will only need to be implemented. In this setup, there are scrum meetings, which are meetings to present the evaluations of the

project model (Confronto, 2014). After the meetings, the suggestions or potential improvements are implemented and then the final project model is initiated (Too, & Weaver, 2014). There are several ways to implement project management. The Six sigma and the Kanban techniques are not project management techniques, by can be implemented in a manner that can be considered project management.

The Six sigma project management technique is straight forward which focuses on the deviations from the norm, and then implements corrections on those deviations to attain perfection. For this process, it is needed for the project management team to define measure, analyze, enhance, and control the project parameters, only when the project is in complete control of the team, can the six sigma approach be implemented (Ansari, A, 2014).

The Kanban technique is another project management method which makes use of tools such as white boards and sticky notes. The white board has three columns which are "in queue", "in progress", and "recently completed" (Naufal, A, 2012). Each noted stuck on the board will have a set of tasks which will need to be completed for achieving progression in the project stages. In addition to that, in this technique, all the employees are aware of what stage currently the team is in. If a new task enters the board, the project manager can easily identify where the steps belong to, which steps comes before and what comes after (Ingason, Gestsson, & Jonasson, 2014). These are the several types of project management. Even though the types are different in terms of project progression, all have the same goal that is the completion of the project. Depending upon the kind of project in hand, the type of project management is chosen. They are not mutually independent and one defines the existence of other in a way.

There are various attributes to successful management of any project. In 1996, Bjeirmi and Munns came up with some attributes of the management of a project that mostly are the workers and the managers involved in the project. They are building confidence; managing change; planning; communication; risk analysis; problem

solving; quality control. The confidence amongst the team members is a foundation of a good project which would be facilitated by an efficient manager (Munns & Bjeirmi, 1996). As the project progresses, a lot of changes happen. An efficient managing would involve diversion of resources to the part that requires them the most without much chaos. Risk analysis and problem solving happens at various levels in a project and pre- planning helps a lot. Some of these attributes overlap with the attributes of the project as they are not devoid of each other, rather they go hand in hand and one defines the existence of other (Munns & Bjeirmi, 1996).

There are several concepts in project management which the project manager will have to be concerned with. Project scope management, project time management, project cost management, project quality management and project risk management (Bryde, 2003). Project scope management deals with initial activities such as planning, creation, protection and the fulfillment of the scope; this includes the creation of the work breakdown structure (Bryde, 2003). Project quality management basically includes processes that ensure that those needs are undertaken which will satisfy the needs of the stakeholders, in relation to that; the three major steps are quality planning, quality assurance and quality control (Bryde, 2003). Project cost management includes those prospects such as planning, estimation, budgeting and cost control processes. The management of time covers those activities such as task duration, characteristics of tasks and how they fit into the puzzle that is the project; this is called project time management (Bryde, 2003). The final one is project risk management which covers areas such as risk planning, analysis of risks, monitoring and finally control (Bryde, 2003).

1.3   WHAT IS DISTRIBUTED PROJECT?

According to Thal et al (2007), a distributed project is a project whose various actions are carried out globally via globally spread out team members. From all around the world, each part of the project is carried out separately and then put together collaboratively. The team members shared their parts of the work, join it together and

form what we call distributed project. According to Bourgault (2008), a project is divided into five major task elements- and they are Strategic Planning, Product Development, Communication, Resources and People. Furthermore, this proves to put the management team in the advantageous position due to the effective costing.

Thus those projects which are distributed geographically can be termed as Distributed Projects.

Strategic Planning is an important element of a distributed project, and having a virtually distributed team helps significantly in making the right decisions about a strategic plan (Nenni et al. 2014). The strategic planning of the project happens globally too. The benefit of this wide spread process of planning how to carry out the project is that due to varied leaders coming from varied cultural and economic background from across the globe, the strategy is a long term plan that takes into account much more possibilities than it would have taken otherwise (Suliman, 2014). The project is thus benefitted from the multi varied planning strategies put forth by team member from various countries. A good distributed project would not look into the short term implications of the execution of its plans but rather long term profits of its company (Alnsour, 2014). Getting inputs from various economies in that provide material to increase the horizon of the companies awareness about various factors in its global market is a crucial corner stone in distributed projects (Chen at al, 2008).

This is combined with the fact that the organization ends up with a developed product or service that is directly connected to the needs of multiple societies. It does not matter that the people who give the ideas are from different parts of the world, as long as the finished product is desired by people from all parts of the world (Sawhney, 2007). Software that ends up taking into consideration the geographic and demographic changes in different societies is one that has the highest potential for success in the future. These different distributed teams communicate with one another from different parts of the world. Communication is the only way people can ensure the best possible product or service is developed from their efforts (Morreale, 2000). All the skill, talent and experience in the world will not ensure that a strong product gets built if the distributed teams do not communicate with one another.

In turn, the resources of the project management teams are much better shared and used if they are used in a distributed setting. The best from each part of the world can be used – with technological expertise coming from the USA or Japan, and human resources coming in from countries like China (Yen & Pulatov, 2007). The use of combined resources makes it possible to create the cheapest and best possible product.

According to me, one crucial factor that affects the development of any distributed project is the solidarity of the team members globally. If the members do not communicate well, use resources to the best of their abilities and ensure that the product has been developed satisfactorily- a distributed project can become a complete failure (Bean & Wantanabe, 1988). The project manager, the project team members and the sponsors are all important ingredients in making a distributed team work.

1.4   WHAT ARE PROJECT TEAMS?

The success of a project depends up team work, which is an important concept that needs to be implemented into any project, especially a multi cultured project group. According to Harley, (2003), teamwork is defined as "a cooperative process that allows ordinary people to achieve extraordinary results." Teamwork is reliant on multiple individuals who work together to achieve a single dream. The various members of a team need to come together in a cooperative environment by using their knowledge and skills. There are a number of factors that contribute to successful teamwork, but primary among them is commitment to team success, interdependence, interpersonal skills, open communication, adequate team composition and commitment to accountability (Bougault, 2008).

1. Commitment to Team Success: Each of the team members should be committed to the goals that are shared across a team. Any team which wishes to be successful needs to learn that they should be motivated and engaged to aim and achieve their goals (Evaristo, 1999).

2. Interdependence: In order to succeed, a team should be interdependent on one another. A workplace environment where a team brings out the best in one another is necessary to ensure that a team has the same focus and motivation levels. There should be not one project manager that does not encourage other team members to achieve their goals, contribute to the team's success and learn in the process (Evaristo, 1999).

3. Interpersonal Skills: Project members need to be trustworthy, supportive and honest with their team members. The various team members need to create an environment where each of the project team members nurture one another and create a positive influence on the other members (Kisielnicki, 2011).

4. Open Communication: Each team member should listen to the negative and positive feedback from the other members of a team. They should know that not all work done by their team members is perfect, and therefore work towards making sure that they are honest with their criticism, and delicate about the sentiments of their colleagues (Kisielnicki, 2011).

5. Adequate Team Composition: Each team member should know the roles that they have been assigned in the project team. They should understand what they need to do for the team, and contribute to the project to the best of their abilities (Zarzu, 2013).

6. Commitment to Accountability: Of course, every team member in a team needs to know that they will be held accountable for their input. This includes good and bad accountability. If the contribution provided by the team member is constructive, they will receive positive accountability and be rewarded. The opposite will occur if their contribution is negative (Kisielnicki, 2011).

1.5   WHAT IS VIRTUAL TEAMS IN PROJECTS

A virtual team is one that operates over boundaries of time and space using technological advances in information systems (Alnsour, 2014). According to Gera (2013), virtual teams are made up of team members who are located in multiple

locations. Computer mediated communication has helped project teams work around geographical borders coordinate their efforts and resources. Whether it is email, video conferencing or communication through telephones, virtual project teams can work around any geographical differences by using these means of communication (Duarte & Snyder, 2006). The degree to which virtual teams are spread geographically can vary over different project teams.

There are a set of criteria which determine what a virtual team is (Hertel, Geister & Konradt, 2005). The first of these is of course the fact that they are not in the same geographical location. The team is defined by a single purpose to complete a specific project. In turn, they are enabled by communication technologies and involved in a cross boundary collaboration (Hertel, Geister & Konradt, 2005). However, certain virtual teams are not permanent teams and might have temporarily created an alliance in order to achieve a common goal (Taha, Ebrahim & Ahmed, 2009). The size of these teams are usually small, and the various team members are knowledge workers that use their skills to collaborate with like-minded workers. The last factor that distinguishes virtual teams from other teams is that all of their members can be from different companies and might be working on a single project (Hertel, Geister & Konradt, 2005).

There are four main types of virtual teams namely teleworkers, remote teams, matrixed teleworkers and matrixed remote teams (Ebrahim, Ahmed, & Taha, 2009).

- Teleworkers: Teleworkers work completely outside their main company workplace using information and telecommunication services. These projects are often based in one location, but require the team members to use telecommunication services outside their company's workplace (Ebrahim, Ahmed, & Taha, 2009).

- Remote Team: Remote teams, like teleworkers have one manager but are usually based in multiple locations. These are individuals who are part of

several different companies and wish to collaborate on a single project (Ebrahim, Ahmed, & Taha, 2009).

- Matrixed Teleworkers: These teams are those that work similar to teleworkers, but have multiple managers who look over different aspects of the team.

- Matrixed Remote Teams: These are teams that are based in multiple locations and have multiple managers who all collaborate and work together towards a single goal (Wellen & Sesay, 2014).

1.6 WHAT ARE VIRTUAL DISTRIBUTED PROJECTS

A virtual distributed project is different from the distributed project in terms of its communication. The difference is in the degree of consistency and frequency with which the teams in the projects are connected. Earlier it was thought to be impossible and unnecessary for the teams to be connected constantly in a distributed project. Thus the project's progress would be slowed and the refinement won't be as much (Gissel, 2013). However in the virtual distributed projects, there is constant connect through the virtual mediums which provide a way to have instant feedback and enhancement capacity of for the project. Communication, coordination and cooperation between teams are high now (Buergi & Oertig, 2013)

Virtual projects and distributed projects share a number of characteristics too. Both have teams whose members are rarely in a single geographic location (Schlenkrich, 2009). In many cases their team members are not even part of the same company. Virtual teams are often used to develop information technology projects with input from software developers, database specialists, security specialists and web designers from all over the world (Schlenkrich, 2009). These specialists come together to work on a virtual project that they can develop over the World Wide Web (Schlenkrich, 2009). On the other hand, distributed project are based on more physically grounded projects. They can develop different aspects of a physical project and transport the different parts to a single location. An example of a distributed project can be the

production of a Boeing or Airbus aircraft, which requires multiple parts developed in multiple countries. In my opinion, the main disadvantage of this approach is that it is not any easy task to track the performance of employees on a face to face level, since it is virtual. There are some other disadvantages too. There are some other disadvantages too. There is lower bandwidth communication that is face to face meeting, which allow reliable channels of communication, are lowered. There is obviously extra overhead which means requirement of tasks, ideas and works to be well documented and saved so as to be able to track in online databases (Kirkland, 2012). This is more cumbersome. It also gets harder to track efforts put of individuals as well as teams and who is taken credit for whom is ambiguous. There might be various investors who may not appreciate such outsourcing as it has high risk and low credibility in terms of quality of work (Kirkland, 2012).

Organization culture as pointed out by various organizational psychologist is very important as it gives employees a sense of belonging. Such feeling promote healthy relations and lead to better job satisfaction as well as performance. However, in virtually distributed projects, it becomes extremely difficult to form an organizational culture (Soderland & Geraldi, 2008). Most importantly it requires new skills and behaviors which are not fully developed as of now. As it is a new concept, mistakes by managers as well as managing teams are bound to happen initially that will make it difficult to manage and maintain the team. There are many disadvantages to these teams. However their preferences are growing largely due to its wider scope (Soderland & Geraldi, 2008).

1.7   WHAT IS CRITICAL SUCCESS FACTORS IN PROJECTS

In the course of a project, it is important to understand that there are several critical factors that are absolutely essential in contributing to the success of a project. These critical success factors have been outlined by Eric Kirkland (2012) The first of these critical success factors is planning. Planning is an essential element because all projects should have a clear plan which the project manager can present to the team members. The team members should understand exactly what the project's milestones

are, and what steps will come together to complete the project. They need to know what the project will hope to deliver (Shenhar, Levy, and Dvir, 1997). The manager should have created an adequate timeline over which a project can be completed. This allows the team members to create an accurate cost outline. The resource requirements for the project should have also been outlined during the planning stage. However, the most important contribution of the project plan is the fact that it inspires the various team members (Shenhar, Levy, and Dvir, 1997). It gives them a clear goal to work towards, and helps them make the decisions that they need to reach those goals.

This brings us to motivation – the next critical aspect that a successful project requires. Not one team member will be able to contribute to the success of the company if he or she is not motivated enough. A motivated team member will move towards the goals of the team with enthusiasm and determination, much more than a demotivated team member (Shenhar, Levy, and Dvir, 1997). It is important that the project manager let an employee know when he or she is doing well, just so that the appreciation translates to even better future contribution to the team. Similarly, negative contribution should be met with criticism so that the team member knows that it is time to step up their contribution (Osorio et al, 2014).

Project managers and team members both need to understand that saying no is extremely important in shaping the success of a project. Yes, challenging oneself is a very important attribute in a project team and project manager. However, there are certain limitations which simply cannot be overcome, and this is where a team should say no to certain tasks. They simply cannot work towards completing tasks which cannot be completed in a certain period of time, or require skill-sets which the team does not possess (Shenhar, Levy, and Dvir, 1997).

Another important critical aspect of project management is Risk Management. The team needs to identify the risks that they will face in the course of the project (Zarina, 2014). This includes taking under consideration any natural problems which might

plague the team members, whether it is personal or physical problems. This should be combined with putting together a list of risks which might be specific to the project which the team is taking on. For example, a software development project might suffer from loss of data, which will severely hamper the success of the project. On the other hand, a construction project might suffer from the risk of the construction workers suffering from injury and resulting in the project being delayed. These problems will only create a situation in which the project will be delayed, or even stopped altogether (Soderland & Geraldi, 2008). These risks need to be adequately taken under consideration before the project is underway, with solutions created for each risk. A plan should be created on how each of the risks will be dealt with when they are incurred.

Lastly, the project management and team members need to put together a project closure for the project. The various aspects of the project need to be tested and evaluated. The various goals that were outlined in the Project Planning stage need to be ticked off, taking under consideration whichever tasks were not completed. Any and all tasks which the team completed on time or did not complete on time should also be marked off. Any project members which did not contribute to the best of their abilities, or made excuses, need to be mentioned. The project needs to be tied up completely, and only then should it be presented as a deliverable.

Each of the critical success factors which have been outlined above need to be met so that a project can be completed successfully. If a team does not plan ahead, or take under consideration the risks, or do not motivate one another, or do not say no, the project will result in a failure. They will be left with a half completed project which does not meet the criteria delivered to them, and this might even result in non-payment.

1.8   THE AIM OF THE STUDY

The aim of the research to explore critical success factors of Virtual Distributed Projects. As mentioned earlier, the main disadvantage of the Virtual Distributed
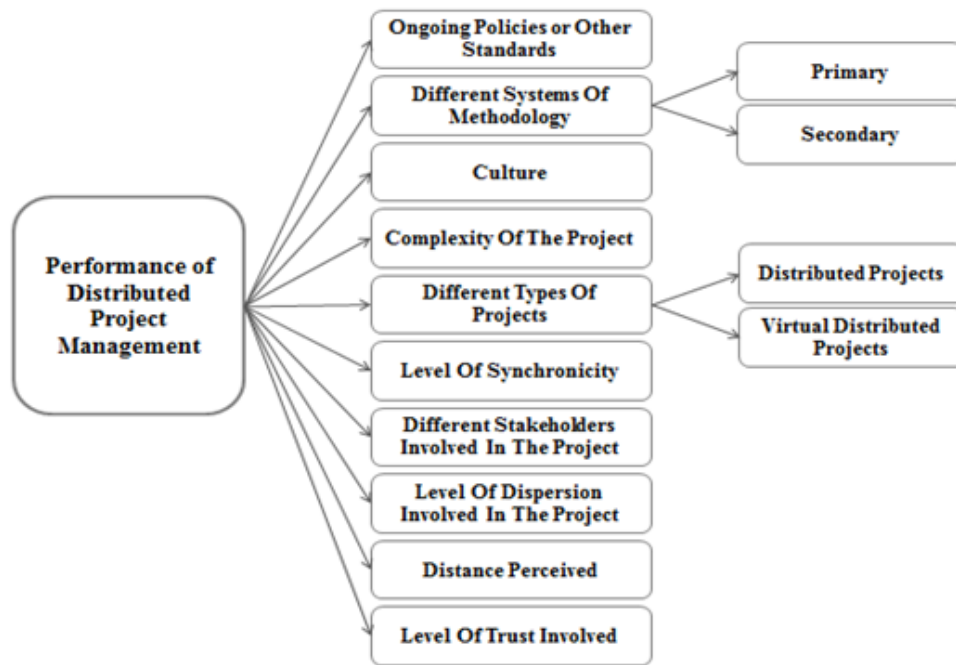
Project is that it is not easy to track the performance and contribution of members of a project who are spread throughout the world. The project will ensure to focus on the issue and make sure to arrive at a plausible reasoning to explore how the success factors of these projects can overcome such an issue.

1.10   RESEARCH MAPPING

	Research Aim	Research Questions	Research Objectives	Research rationale	Underlying theory
1	The literature is relatively conclusive about critical success factors. That means, we know what the critical success factors are in projects. However, the literature is largely developed from empirical data obtained from project teams which we can describe as 'cohesive'. In reality, modern projects are no longer cohesive. An increasing number are distributed and virtual. For this reason, the aim of this study is to explore whether critical success factors as articulated earlier in the literature, still generally apply to today's projects.	What is (i) 'project success' and (ii) what does a virtual distributed project mean?	To explain the concepts of (i) 'project success', (ii) virtual distributed projects'	To provide conceptual clarity with terminology	Success of virtual distributed projects is dependent on technology used by these teams. The role of such teams has changed significantly over the years.

Better, efficient and effective manpower is the key to make a research investigation a major success. |
| 2 | | What does 'project success' mean within the context of virtual distributed projects? | The objective is to explore whether the notion of project success is conceptualized differently by cohesive projects and virtually distributed projects. | How does project type (that is difference between 'cohesive' and 'virtual distributed' project impact upon project success (here the focus is on exploring the peculiar characteristics which (i) implies that virtual distributed projects articulate critical success factors differently – from normal projects and (ii) make virtual distributed projects susceptible to project failure. | |
| 3 | | Which factors influence the success of virtual distributed projects in Dubai. | To identify and evaluate critical success factors in virtual distributed projects within Dubai region. | To identify and explore factors that help in making virtually distributed projects a success. | |

2.0   THEORETICAL FRAMEWORK

There are a number of factors which affect the processes and performance of the project. These factors are mentioned below, and are the reason for the theoretical framework that has been outlined. Each of these factors plays an important part in shaping the overall performance of a project, and in turn, a virtual distributed project. According to Freidi (2014), the technical and various other policies need to be standardized to ensure strong performance of the distributed project. Similarly, Chin (2012) has also said that the different types of methodology have a major effect on the performance of the distributed project. Oehmen (2015) and House (2014) have also commented on the complexity of the project as well as the culture of the project respectively. Gissel, Tanhua & Fehling (2013), Hunte (2013) and Katzy (2000) spoke on the level of trust involved in the project, the distance perceived in the project as well as the level of dispersion involved in the project, which is why these are indicated as important factors that contribute to the performance of the distributed project. The performance of the distributed projects is dependent on the ongoing policies or other standards, different systems of methodology, culture, complexity of the project, the level of synchronicity, the different stakeholders involved in the project, the level of dispersion involved in the project, the distance perceived and the level of trust involved. The different types of project also contribute to distributed project management, which is divided into virtual projects and distributed projects.

Performance of Distributed Project Management

- Ongoing Policies or Other Standards
- Different Systems Of Methodology
  - Primary
  - Secondary
- Culture
- Complexity Of The Project
- Different Types Of Projects
  - Distributed Projects
  - Virtual Distributed Projects
- Level Of Synchronicity
- Different Stakeholders Involved In The Project
- Level Of Dispersion Involved In The Project
- Distance Perceived
- Level Of Trust Involved

Ongoing policies or other project related standards: There are different types of policies in addition to quality standards, management systems and other such benchmarks. Organizational policies that any firm makes use of are critical for establishing system of practices, techniques, procedures, and rules used in portfolio, project assignments in order to meet the preset requirements and deliver the benefits to the clients (Pmi, 2014, p.6). Thus a project can depend upon the policies set up by involved organizations in that particular project. Factors or elements which are to be considered as standards for smooth implementation are scope control, estimations of methodology, standards for communications, methodology scheduling and the programming of other related standards. According to Freidi (2014), an organization's technical and policy component need to be aligned for a smooth project management functioning (p.182). The degree to which a single standard is kept in place and upheld will affect the ability of the project manager or the involved organizations to stabilize and continue the integrity of the project.

Different systems of methodology: The success of a project depends on the project manager's understanding of the systems and the differences associated with the types of systems. According to Chin (2012), an effective project manager can be easily

tailored to an environment and thus adapt to unique nature of the project and the stakeholder's demands by choosing the perfect methodology (p.107). When a project manager has an excellent understanding of such methodologies, that individual will be able to mitigate issues related to project communications, project based plans and most importantly the quality of the project. In a study, it was seen that by choosing a project management methodology, the project manager will be able to identify the success criteria, and thus determine the factors that will increase the chance of achieving that criteria (Muller & Turner, 2007, p.298). For instance, consider the waterfall lifecycle based project and the Object oriented project. An excellent project manager will be able to cite the variance as the first one makes use of diagrams based on hierarchical diagrams and other latter makes use of use-case diagrams; furthermore the project manager will be able to identify the matrix affinity analysis and the class diagrams. Each methodology has its own set of ambiguities and issues, which a project manager will be able to overcome only when that individual understands the idea of those systems of methodology.

Different types of projects: Understanding the type of project is a core aspect of project management; it is said that the compatibility between the project manager's behaviors and proehct types are crucial for project success (Bakhsheshi & Nejad, 2011, p.181).The type of project is to be considered at the obvious stage of a project that is the initial stage or the birth of the project. For instance, a construction project will make the project manager consider looking for additional sub-contractors or other construction based automobile company for supplies; whereas a information technology based project will have the same project manager looking for human resources specialized in the construction IT based frameworks and related resources for piling on the IT backbone constructed. Thus each project is unique, in relation to which, Baccarini (1996), stated that projects have certain critical characteristics that determine the appropriate actions to management them correctly (p.203).

Culture: The term culture is an important element which involves a lot of dimensions. According to House (2000), project managers should study cultural variances as it will enable them to understand political systems, background and

religion which can be implemented in managing the management (p.6). A single gigantic project incorporates the expertise of people from all over the world. In this case the project manager, will have to understand from which part of the country or the world people have come from for the success of the project. Such an element of culture is characterized as the culture characteristics. There are lot more other dimensions which requires the attention of the project manager such as the organizational culture and the project. If a project manager is able to successfully management a global firm, that individual will be able to deviate from the general norms and thus obtain a competitive advantage, which will improve the success of their project (Elena, 2010, p.657)

Complexity of the project: People and technology are two elements that are intertwined and have made project more complex (Oehmen, 2015, p.3) The same is also mentioned in another research, where it was seen that as two elements become more and more interconnected the complexity of a project increase proportionally (Ameen & Jacob, 2012, p.1). In other words, the more complex the technology involved in a project, can also proportionally increase the complexity of a project; For instance, a project to land a man on the moon involves high level technology whereas, moving a structure or a small stature from one part of town to another part makes use of technology not of the high level. Such complexity levels affect the performance and also require more elaborate resources for ensuring success.

Different stakeholders involved in the project: A successful project manager will have to identify the different types of stakeholders involved in a project. A stakeholder has the common goal of being satisfied by the end stage of the project. A project manager will have to successfully go on with the project by considering the interests of various types of stakeholders and ensure to meet the goals of all the stakeholders. As per Schmeer (1999), a stakeholder analysis should always be conducted to identify and prioritize the stakeholders and also find out whether they will support or block the pathway to success (p.1). In a less related note, studying stakeholders will provide better social benefits, lowered environmental costs and more financial benefits as well (Hughes, 1998, p.9)

Levels of Synchronicity involved in the project: By having a synchronous management is will be able to have a positive communication and better performance (Muszynska, 2015, p.1365). A project is a temporary endeavor which requires a lot of people in a concurrent manner to achieve the ultimate success. Without the proper and effective cooperation even from one department can deconstruct the success of a project, which finally leads to the failure of the complete project. Most of the project managers make use of the checkpoint frequency to analyze the level of synchronicity involved in a project.

Levels of dispersion in the project: To put it in simple words, the more the level of dispersion among the stakeholders, the more difficult and increasingly challenging the work load becomes to the project manager. Also it will be very difficult to track down the behavior of the stakeholders, as Katzy (2000) stated, geographical dispersion increases the complexity of a project (p.1). Dispersion is thus the distance between the members in a group of a stakeholder

Distance perceived: The speed of a project's progress depends on the speed of communication at which the information can travel from on level of management to the other level. If the time taken for the information to reach the destination is longer than expected, the project manager will have to consider restructuring the entire information flow to accelerate the rate of the project progress. Hunte (2013), conducted a research, where it was observed that with lack of the basic IT infrastructure it was very challenging to get information across the different staff members in dispersed sites (p.1).

Trust levels in the project: In a project, an endeavor in the economic and technological world, the level of trust is sealed through elements such as contracts. A project manager will thus have to construct and also understand a contract before giving any sign of approval. Furthermore, the trust level within a particular organization ensures the success rate of a project, and furthermore reduces the time at which the success is achieved. In a virtual project, it is very important to establish trust in the team as it will assist in overcoming the communicative challenges, which is very vital for the success of the project (Gissel, Tanhua & Fehling, 2013, p.1)

3.0   LITERATURE REVIEW

3.1   DISTRIBUTED PROJECTS

According to Dwivedi (2015) distributed projects entail team members operating and working from many locations and can even be termed as international projects when they involve personnel situated beyond country borders. The new types of cooperation and competition that are emerging in the business world as a consequence of globalization have an influence over the entire process of managing business and projects. Projects in organizations have hence turned into processes dispersed over different geographical locations and entail growing number of employees with distinct cultural backgrounds. Software development for instance has now converted into a multicultural, multi-location, globally distributed project. Increasing numbers of companies are distributing the process of their software development across the world in order to gain high productivity, increased profits, better quality and lower cost (Dwivedi, 2015).

Much of the work of Kathy (2011) showed how distributed projects have a long history and demonstrated how the usage of information and communication technologies both facilitate new possibilities and give rise to new challenges for companies. The authors argued that heterogeneity of knowledge, employees and many other factors increase with technology becoming more critical in the work of a distributed project team.

In a distributed project work is not thrown over the wall between specialists and teams. In fact, in a distributed project, the wall is torn down so that an individual present at any geographical site can get involved in any type of work required. The project is organized in the form of a single global team. Distributed projects have become a necessity according to Binder, (2007). It is a rare sight these days for a large project team to be entirely collocated. In fact, the trend these days is of smaller collocated teams. A successfully distributed project is the most scalable and flexible means of organizing consistent delivery.

Kock & Ned (2007) outline some of the challenges faced by distributed projects. He stated the communication is a bigger challenge in distributed projects. The main reason being the limited channels of communication available to the distributed project teams. Given the fact that most of the conversation is non-verbal, the distributed projects face limitations due to their circumstances. Another critical issue for distributed projects is the differing time zones due to which the people working on these projects face problems in getting access to one another with respect to communication tools and core hours. Core hours can actually be complicated – the bigger the time difference, the more challenging is the effort.

3.2   PROJECT TEAMS

Sampietro & Villa (2014) define a Project Team as an organized faction of individuals who are charged with the responsibility of performing individual/shared tasks of a project together with accomplishing individual/shared objectives and goals for the aim of successfully completing the project and producing the intended outcomes. The team may comprise of both part-time and full time employees supposed to work collaboratively on yielding deliverables and taking the project toward effective completion.

As per, Cobb (2011) a project team involves members normally belonging to different functions and groups who are designated to perform activities for the same project. Normally such project teams are used only for a definite time period. They are disbanded once the project gets completed. The basic characteristic of project teams in today's organizations is the flexibility and independence availed in the method or process undertaken to meet the desired objectives. Majority of the project teams need the involvement of personnel from more than one function or department, and hence, most of these teams can be regarded as cross functional teams.

According to Scholtes, Joiner and Streibel (2003) project teams are temporary in nature, have a specific focus, and usually have both affiliated and core members. Core members are involved throughout the lifecycle of the project and normally have required skills necessary for the work output. Resource or affiliated members might

only be important for particular stages of the project and tend to move in and out of the project team with the progress of the work. Product development teams, problem-solving teams, and improvement teams are some examples of project teams as outlined by Scholtes et al. (2003).

> ➤ A problem solving project team comes into existence when the organization has a problem which is not possible to be solved by traditional methods. The problem solving project team brings together representatives from myriad domains of the organization to find a solution. Members are required to solve the problem in an effective way whilst performing to fulfill the needs of all the functional areas of the organization (Scholtes et al, 2003).

> ➤ Product development teams are created with employees from distinct functional areas to support the planning, designing, development and conversion to production of a novel product. Such teams present a system to facilitate previous involvement of the core functions which are entailed in the product designing, production and support (Scholtes et al, 2003).

> ➤ Improvement teams typically coordinate the improvement work in their company. The improvement teams are generally involved in quality improvement or process involvement. This team is assembled by a team leader and process owner, and comprises of those employees who are either indirectly or directly involved with the process (Scholtes et al, 2003).

Clark and Wheelwright (1997) identified four types of project teams discussed below:

> ➤ Functional teams, in which individuals are brought together chiefly by discipline under the supervision of an expert sub-function manager. The principal responsibilities of the project pass in sequence from one function to the following function.

> ➤ Lightweight teams, in which team members physically reside in their functional domains but every functional area assigns a liaison person to stand for it on the project coordinating board to synchronize activities of different functions.

- Heavyweight teams, in which the direct access and accountability for the work of everyone involved in the project lies with the project manager, managed by leaders who might be outranking the functional supervisors. The core team members are committed to their efforts and co-located physically.
- Autonomous teams, also known as the "tiger-teams" are project teams in which people from disparate functional domains are officially assigned, co-located and dedicated to the project team, which provides a strong focus to the team, but can render it challenging to fold the members of the team back into their original areas on the completion of the project.

3.3 VIRTUAL TEAMS

The literature review for this has been explored mainly from two bodies of literature i.e. from organizational behavior domain and the management information systems domain as was reckoned germane to the elements examined in the current research. Usually, majority of the research on virtual teams till date manifestly belongs to either organizational behavior or IT fields. The current study includes a combination of both the sciences. Identifying critical success factors of virtually distributed projects need an exploratory research of the company, the project, and the team in which a virtually distributed project is done. This amalgamation includes both areas of organizational behavior and MIS and is pertinent for accomplishing the research objectives.

For the purpose of assessing the scholarly understanding of virtual teams, Powell, Piccoli and Ives (2004) carried out an analysis of the literature dated between 1998 and 2002 on the same. The authors identified a myriad of definitions of virtual teams and concluded their definition through an examination of 43 different papers. The most preferred and commonly used definition of the virtual team is that of a team of separated people who are organizationally, physically, and time-dispersed employees brought together to accomplish the required tasks with the means of telecommunication and information technologies. This definition implies that a

virtual team is brought together for a specialized task or a particular need in which a start and finish date is provided by the scope of work. At the centre of the virtually distributed team is the usage of technology to communicate. In a traditional team format, it is easier for the team members to communicate effectively and successfully as they are usually located near each other. This gives them an opportunity for regular feedback and task coordination between each team member. However, the authors uncovered that as in a visual team, the team members are in different locations, face-to-face meetings occur less frequently or in most of the cases do not happen at all.

Powell et al. (2004) speculated that such absence of face-to-face interaction renders it difficult and complicated for dispersed teams to share information in a timely fashion. Moreover, cultural differences are likely to promote an inability for these teams to form a solid social structure. This, coupled with dearth of formal training, distinct social schedules and time-related issues may cause difficulties in the virtually distributed teams. This can encompass risk response, consistent understanding of the project goals, resolution of conflict, and conquering project challenges. Nonetheless, as posited by Powell et al. (2004) because the dispersed teams represent a progressive type of teams for company that is responsive and flexible in a globalized environment, comprehending the nature, theory and concept of virtual teams is crucial for team effectiveness and viability.

Another research present in the literature that defines and analyzes virtual teams which depend on technology-mediated interaction is that of Martins, Gilson and Maynard (2004). As observed by Martins et al. (2004), previous definitions of virtual teams intended only to compare and differentiate virtual teams from face-to-face teams. Nonetheless, studies undertaken in the dawn of 2000 till date concentrated especially on defining the virtual teams in a real world organizational backdrop by analyzing the team procedures, processes, mechanisms and outcomes whilst faced with organizational, social network, location and time limitations. Hence, the progressing definitions included the earlier elements of virtual teams but also emphasized the fact that these teams are firstly a type of team whilst incorporating

virtualness as a feature of their team. Hence, Martins et al. (2004) centered their study on satisfaction of team member and the impacts of virtual communication through team composition. The researchers identified that for the purpose of encouraging advancement in the understanding of virtual teams and to take the research ahead, researches need to be centered more on team-ness together with virtualness.

This steering premise of the virtual team as an evolving and complex group allowed the researcher such as Brandt et al. (2011), Huang et al. (2010), and Kayworth and Leidner (2002) and to further comprehend the relationship between the performance of virtual team and their outcomes. In referring to and progressing on the findings of Powell et al. (2004), Kuruppuarachchi (2009) conducted a quantitative case study for exhibiting the functions of virtual teams within a company and examined the drawbacks and benefits of these teams. Similar to Powell et al. (2004), Kuruppuarachchi (2009) described virtual teams as the ones existing in several time zones, spatial restrictions and cultural limitations; whilst adding to a shared objective through the usage of technology to effectively communicate. The advantages explained in the course of this study were the likelihood of recruiting talented people, stimulating resourcefulness and creativity among each team member, and creating equal opportunities at the workplace.

Additionally, as stated by Horwitz, Bravington and Silvis (2006), it is plausible to envisage teams which are quickly formed, as and when required, and which can be disbanded readily. Hence, virtual teams are convenient for companies that require to speedily create a group to work on a specific task. According to Purvanova and Bono (2009), virtual teams are defined by spatial dispersion, impermanent existence, and the use of technology mediated communication. However, Johnson et al. (2001) contrastingly state that the phrase 'virtual team' can conveniently be applicable for a group of individuals working no more than 100 feet apart. Dispersed work across several places and different working hours is not a phenomenon of the past one and half decade only (Hertel et al. 2005). Contributing to such findings, Kirkman and Mathieu (2005) mention that face-to-face, co-located teams can also display high

degrees of virtuality. An alternate perspective recommends that it is more practical to concentrate on the degree to which members of a team use virtual tools to synchronize and implement team processes – measuring the quantum of information value supplied by these tools, and the coordination of virtual communications of team members – than on debates over geographic location, and at what distance the group member should be to be regarded a part of a virtual team (Kirkman and Mathieu, 2005).

3.4   VIRTUAL TEAMS IN PROJECTS

A virtual project team otherwise known as a distributed project team is a team including members working together on a particular project where the tasks of the team members are non-routine, and the outcomes are measurable and specific. Virtual teams in projects can be further characterized as possessing dispersed team members, workplaces, systems, and knowledge, and as having an authority to take decisions. In other terms, a virtual team in a project can cross organizational, distance and time related boundaries and take decisions to fulfill task objectives. Team members can rotate on an off a project as and when required. This is normally done to mitigate project costs and effectively utilize members' skills and time across the company (Raval et al, 2010).

As noted by Bergiel et al. (2008) virtual teams in projects use competencies and expertise (usually autonomous of their geographical location), and temporary consultants. Leadership is shared among the members of the team; however, a rather fluid and flatter kind of management or leadership structure often typifies virtual teams in projects. Internet has an instrumental role to play in enabling team members to do their tasks from remote sites and to exchange resources and ideas. According to Curseu et al. 2008, the Internet has become a prominent influencer for all types of industries and organizations; hence large companies facing fierce competition are apparently the biggest advocators of virtual teams in projects.

Ebrahim et al. (2009) stated that in general, "virtual project work" can be differentiated into a number of forms based on the extent of interaction between the members and the number of people involved. The first is *'telework'* (telecommuting) which is conducted completely or partially outside the main organization premises with the help of communication and information technology services. *"Virtual project groups"* exist when many teleworkers come together and every member is reporting to the same manager. However, a *'virtual project team'* exists when the people involved in the virtual project group communicate with one another for the purpose of accomplishing shared objectives. Lastly, *'virtual project communities'* are bigger entities of the distributed project in which team members participate through mediums such as the internet, and are guided by common norms, roles and purposes. In contrast to virtual project teams, a virtual community is not incorporated within a company's structure but is often initiated by one or more of its members. Open Source Software is a leading example of a virtual committee.

Cascio and Shurygailo (2003) explained the different types of virtual teams in projects by classifying it in context of two principal variables i.e. the number of managers (one or more), and the number of locations (one or more). Resultantly, there are four types of virtual project teams according to Cascio and Shurygailo:

➢ Teleworkers – One team manager at one location
➢ Remote team – One team manager distributed across a number of locations
➢ Matrixed teleworkers – Many team managers for a single location
➢ Matrixed remote teams – Many managers across a number of locations

Teleworking is seen as a substitute means of organizing work involving the partial or complete usage of ICT to allow employees to gain access to their tasks from remote and different locations. Telework offers cost savings to team members by removing time-consuming commuting to company offices and provides greater flexibility for coordinating their work-life balance.

3.5 VIRTUAL DISTRIBUTED PROJECTS

In a virtually distributed environment, project development efforts are not modeled applying benchmark project management techniques such PERT and CPM. Such approaches usually concentrate over the control of dispersed projects; however, enabling work by means of knowledge sharing is more important in virtually distributed projects as knowledge tends to be more fragmented and specialized. In virtually distributed project environment, collaboratively developed and meticulously defined methodologies are vital; examples include defining the responsibilities, roles, and performance metrics; and identifying the project management structure.

Gissel (2013) noted that a virtual distributed project differs from the distributed project in respect of its communication. The distinction lies in the degree of frequency and consistency with which the team members in the projects are connected. Previously it was seen as implausible and irrelevant for project teams to be constantly connected in a distributed project. As a result, the progress of the project tended to be slow. Nonetheless, with the arrival of virtual distributed projects, there is continuous connection among the team members by means of virtual mediums that prove to be a means of instantaneous feedback and improvement capacity for the project. Cooperation, coordination and communication are much higher between the teams now then previously (Buergi & Oertig, 2013).

According to Slevin & Pinto (2004) the remarkable development of technology has led to the creation of work designs that surpass geographic and temporal boundaries. With rapidly growing globalization of project management, teams consisting of individuals who might never interact face-to-face with one another have become common place. A virtual distributed project has team members who are linked to each other through the media channels or the Internet. Global virtual distributed projects are those with internationally distributed team of individuals with a company mandate to take or execute decisions with global elements and implications.

As the team members of a virtually distributed project are dispersed geographically, the virtual distributed project environment varies from the traditional face-to-face project environment. Although, the team members get the opportunity to work in close coordination with the end users of the project, and the virtual distributed projects provide greater flexibility to the personnel, particularly as they offer the opportunity to telecommute, Goncalves (2005) states that virtual distributed projects also have many shortcomings. He stated that as the team members of virtual distributed teams are dispersed geographically, there might be less mutual understanding and awareness among them.

3.6 CRITICAL SUCCESS FACTORS IN PROJECTS

A number of studies have explored the critical success factors of a project and a virtual project per say. Though research works varied in design and scope, some key factors have been determined as success factors for projects in general and virtual projects.

Planning

Young (2007) rightfully mentioned that time invested in planning is a fruitful investment. All projects ought to have a plan with sufficient details so that all the people involved know where the project is headed. A sound plan provides a range of benefits namely: a realistic and valid timeline; clearly documented project deliverables and milestones, detailed requirements of resources, serves as an early warning mechanism and keeps the project team aware about the development and keeps them focused. Withholding this aspect is going to result in problems (Young, 2007).

Team Motivation

A team that is motivated is bound to put in extra efforts to deliver a project within the stipulated deadline and to budget. A team becomes motivated through its involvement throughout the project and by creating regular milestones to help them feel that progress is being made. Communication is very important and if the team members

know when they are performing well and when they are not then such feedback further motivates them toward task accomplishment (Morley, Cormican & Folan, 2015).

Risk Management

According to Heldman, K. (2010) project managers are aware that things do not usually go exactly as per plan. Hence, producing a risk log coupled with an action plan for countering the risks during the planning process is extremely vital and can ensure project success. All the team members should be aware of the risk log for effective risk management. This is because if any uncertainty arises then the team can speedily resolve the problem through the risk management plan. This also gives the team's confidence a boost. Maintaining a centralized online database of project related information is critical to ensuring that important project momentum is not lost during the project.

Strong Project Closure

If a project fails to have an effective closure, then there is a likelihood of it continuing to consume resources. The project team should be strong and agree with the client that all the project's critical success factors have been fulfilled (Heldman, 2010).

The literature also presents critical success factors for a virtual project. These have been outlined below:

Clarifying Objectives

In analyzing effectiveness of virtual project teams, clarifying objectives was a primary contributing factor to project success. Explicating roles and responsibilities, objectives was a major causative factor and closely relates to responsibilities of management in creation, alignment and communication in teams. A crucial role of clarifying goals is the part of communication in the team. Karayaz (2006) mentioned that communication had an instrumental role to play in the success and effectiveness of a team, thereby contributing to the eventual success of the project. Hence, communication is vital to mitigate impediments when working as virtual team on a

project. Hertel, Kondradt and Voss (2006) identified that conventional face-to-face communication was not significant in virtual projects.

Technology

Technology is regarded as a key enabler of a virtual project's success. Provided that virtually distributed teams operate distinctly from face-to-face teams, it follows that technological support allows a much broader team discussion than earlier. For Anderson et al. (2007), the supply chain presents itself as an interesting environment in which to explore the effects of technologically backed working, as it emphasizes the intricacies of a modern workplace, consisting of networks of organizational and social associations between companies and individuals.

Shachaf (2008) has observed that ICTs might go way further their planned usage for overcoming time zone and geographical differences, to extending support for the development and maintenance of team identity. Some ICTs that are frequently utilized in a virtual project include e-mail, telephone, internet, video/audio conferencing, and groupware. The Internet, the broadest of computer networks is a highly cost effective and user friendly mode for communication. It is unarguable that technological support is significant in virtual projects owing to the nature of such work. In absence of communication and information technology, it would become impossible to carry out a virtual project.

Selection of Team Members

Selection of the right team members plays an instrumental part in the success of a virtual project team and the accomplishment of the project objectives. As mentioned by Lin, Standing & Lui, (2008), people leading a virtually distributed project team must possess a heightened sense of understanding pertaining to subgroup formalities and its slipups. The team formation is very critical in ensuring that the project objectives are fulfilled and the coordination of the team is appropriate for the outlined goals. Trust has been identified as highly important in virtual teams (Germain and

McGuire, 2014), as several tasks are performed independently and the members of the team ought to rely on one another's expertise to perform the tasks effectively.

Management Support

Support of the management refers to the supposed extent of backing provided by the senior management. Earlier studies have revealed that management support is among the important factors impacting project success (Rezgui, 2007; Lee-Kelly and Sankey, 2008). Management support is necessary to ensure adequate resources are distributed and for acting as a change agent to form a more encouraging environment to use information technology. Hence, the support of management is linked with greater project success and a dearth of it is seen as an impediment in the effective accomplishment of a project's objectives. Management support has been highlighted in several studies as a potential determinant of a project's success. The greater the support of top management in incorporation of ICT, the more likely the leaders will be to provide and supervise the practices and policies in ensuring the correct environment for ICT implementation. The physical distance between the virtual team members and the top management might suggest that their support becomes a crucial element for ensuring better project performance.

4.0   RESEARCH METHODOLOGY

A very important of any research investigation is the research methodology chapter. It provides great details about different methods and tools that have been used in conducting the study (Sam and Daniel, 2011). It enables the researcher to identify techniques to use to carry out the research; and it also helps the reader(s) to understand the method, so that they can comprehend the study in an easy and effective manner. In the following paragraphs, different tools and methods that have been used to conduct this study are evaluated.

4.1   RESEARCH APPROACH

A crucial part of any research study is the approach used to conduct it. Generally research approach can be defined as a theoretical aspect of practically implementing or using it. Therefore it can be said that a researcher needs to be very careful while determining these. If any mistake is made here, then it can negatively influence the whole study (Kimmel, 2009). There are two main types of approaches – inductive and deductive. In the former approach, researcher tends to collect data related to the subject matter and then evaluates theories and concepts related to it. This helps the scholar in corroborating the theory and past discussions with the data he/she has collected from different sources (Saunders and et. al, 2009). On the other hand, deductive approach is the complete opposite of it. In research investigations where deductive approach is used, conclusions are reached by deducing premises of the topic.Further to use this approach, researchers would have to move from particular aspect of the topic to general ones. This means that first theory related to the topic need to be evaluated or reviewed and then developing observations and finally confirming or rejecting premise of the study. Those studies where this approach is used, tend to be more scientific in nature, i.e. they evaluate different past investigations on the topic and then test the hypotheses based on the said theories and concepts.

In this study, deductive approach has been used. This means that the researcher would assess or review different past investigations on the topic of assessing critical success factors for virtual teams (Jonker and Pennink, 2010). This enabled the scholar to identify and understand different theories on the topic and test them. Once these steps are taken, the result of such tests is taken into consideration with a view to confirm them to negate them.

4.2   RESEARCH PHILOSOPHY

It basically is the creation of a research background. Nature of the study depends to a great extent on the type of philosophy adopted by investigator. There are two types of research philosophies – Interpretivism and Positivism (Jonker and Pennink, 2010). The first philosophy states that it is not possible for the researcher to gain complete comprehension and knowledge of the world while observing general theories and deducing various pattern from it. On the other hand, according to positivists everything can be proven through hard evidences.

To attain aim of the study, research has been carried out through interpretivism philosophy which enabled the scholar to study and evaluate different aspects of the subject matter in their natural environment. This way scholar was able to obtain thorough information on the topic. Evaluating the subject matter in its natural setting, i.e. working of the virtual teams in order to identify different critical success factors, helped in getting thorough idea about it.

4.3   SAMPLING

It is one of the most crucial activities that the researcher will have to carry out during the process of research (Sudman, 2011). This process would help in simplifying the process of primary data collection, along with speeding it up significantly. This way through information about the population can be collected, which essentially can be generalized as per the topic as well as according to different characteristics of the selected population. During it, lot of attention should be paid to make sure that the

sample population sizes which will be selected for doing a study on them represent the whole group that is to be studied.

In this study, stratified sampling technique was used. Main reason behind using it was that it would enable the scholar to include those individuals in the study who qualify or fall in the criteria. This way proper, effective and accurate information on the subject matter was gained. In the current research, survey was conducted by taking participants who are from British University in Dubai and Ministry of Labor. They were contacted with an aim to acquire the valuable information which enables the undertaking of present research study on knowing about the critical success factors of Virtual Distributed Projects. The sample size which is defined to perform the current investigation is 132. With respect to undertaking current research, the number of participants chosen was 169 but, 37 surveys were excluded because they were not the part of any virtual team or were left incomplete. So final sample size took was 132 samples.

4.4   DATA COLLECTION

There are two main sources from which the researcher can collect data for the research – primary and secondary.

Primary: It is that source through which the researcher collects fresh facts and information. It can be derived through various methods such as questionnaires, face to face interviews, etc (Stawarski and Phillips, 2008). In this study, primary data was collected through conducting pilot survey where 169 participants were selected out of which 37 reverted with incomplete and inexperienced aspect regarding Virtual distributed project so only 132 samples are taken for collecting primary data and information.

Secondary: Obtaining secondary data is very important for the research, as it is through this way that the investigator can develop a sound theoretical base and gain conceptual clarity. This can be done through already published books, magazines,

journals, articles, etc. Secondary data was collected by way of reviewing and assessing the above mentioned sources.

Mixed Method: The main rationale of applying the mixed methods is to embark upon effective outcome to present answer to research question from different angles. This is the reason why more than one kind of investigation approach for collecting data will be used. This is the reason both primary and secondary research methods are used in order to gain effective outcome of the present study. This is the why both published and non-published data are used for conducting the present research study. Questionnaire is a survey technique which will be quiet effective in meeting the goals of actual scenario where as secondary data are already published data.

4.5   DATA ANALYSIS

It is that process of the study, in which the data that has already been collected is analyzed through various tools and techniques. Primarily there are two methods to data analysis – qualitative and quantitative. In qualitative, different themes are formed which give a complete information of the inferences and conclusion that can be drawn (Flick, 2011). On contrary to same, quantitative technique is applied in order to gain the resultant outcome in the form of measurable value for gaining more effective analysis in terms of accuracy. For that, tools such as statistical measures, graphs, charts, SPSS etc are used.

By keeping the present research into consideration, investigators selected the quantitative analysis technique as the data analysis tool for undertaking present research. Main reason behind using this method is that it would enable the scholar to explore different topics and areas of interest pertaining to the subject matter. In addition, through this method, the scholar would be able to analyze the topic in a thorough and detailed manner, resulting in attainment of aim of the study. Further, the rationale behind using this method is to gain the accuracy and reliability through acquiring resultant outcome in the form of measurable term and figures. This will be helpful in gaining in depth and correct analysis of data obtained through information

collected from both primary and secondary data. In this way, through quantitative data analysis technique, investigator would be able to explain the critical success factors for virtual teams in Dubai, as scholar would get a chance to assess both social as well as behavioral aspects of the topic and then present them in the present study through the help of quantitative mean in the present study.

Data analysis is conducted through the use of two main types of methods which are named as qualitative and quantitative methods. The type of data collected through above stated primary and secondary data need to be effectively analyzed and interpreted. Generally, Qualitative data is analyzed through thematic technique whereas quantitative analysis is done through SPSS method. According to the present research study, quantitative technique will be feasible. Hence, SPSS technique is the most effective and efficient tool which can be applied to process the present data and information. The rationale behind the same is to meet the meaningful outcome in the form of conclusion to meet the present research study.

5.0   DATA ANALYSIS

The purpose of the discussion is to meet the aim of present research study which is regarding achievement of exploring the critical success factors of Virtual Distributed Projects. The implications of the present findings are based on assessing the main disadvantage of the Virtual Distributed Project which is not easy to track the performance and contribution of members of a project who are spread throughout the world. In this regards, the future research is recommendable as well to explore in depth understanding and knowledge of the issue and make sure to arrive at a plausible reasoning to explore how the success factors of these projects can overcome such an issue. Thence, the entire research study is based on specific to general outcome.

In response to major findings, it has been ascertained through the research study that major contributory factors that are responsible for making the success of the study are inclusive of planning, team Motivation, risk Management, Strong Project Closure, clarifying objectives, technology, Selection of Team Members, Management Support etc. With reference to the meaning of the findings shown, it can be assessed that a study is effective when these CSF are applied. It has been analyzed that these play effective role in stating the fact that researcher will be successful in putting his thinking into actions. However, various studies have been made and are found to be significant. However, this study was an attempt to broaden the diameter of the concept pertaining to Virtual distributed projects.

For understanding the challenges of developing and managing integrated teams research study was conducted. We have distributed the survey question to the integrated team members. The sample was chosen in this way, because integrated team members will be able to provide accurate answers for the research. The research methodology used for collecting data was an online quantitative survey research method. To summarize:

- **Sample:** 169Responses
- **Research tool**: The Survey where shared online by survey monkey to the following(Appendix1):

- British University Students (PHD + Masters Students)
- Ministry of Human Resources and Emiratization (Employees) – 1200 Employees
- **Method of statistical analysis:** the questions were analysed with descriptive statistics by using SPSS program
- **Time: 13st March to 27thMarch 2016**

Numbers of responses were **169**, **37**Surveys were excluded because it's either uncompleted or they were not a part of any virtual team. So I was left with **132** responses.

Aim of conducting this investigation was to assess the critical success factors which have a major role in success of virtual teams. Here data was collected by way of questionnaire survey from British University in Dubai and Ministry of Labor.; while secondary data was gathered by reviewing past studies on the topic, as well as journals, magazines, books, etc.

To analyze the data collected from these sources, quantitative approach has been used, where different forms of presentation methods such as graphs, pie charts, etc are used. Further, the obtained outcomes which were analyzed are presented so that presentation of resultant outcomes can be made in the form of figures. Further, SPSS method is applied as well with the application of which resultant outcome can be studied to arrive at meaningful conclusion and outcome.
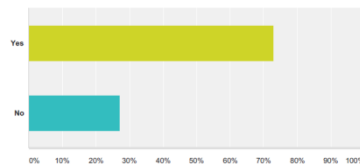
In the following paragraphs, information collected for this study from different sources is assessed and evaluated through quantitative approach. The outcome of tool and technique applied shows following resultant, the analysis of which has been worked out as follows:

<u>Majority managers are a part of virtual teams</u>
Result:

Q1: Are you a part of any virtual team?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	132	78.11	78.11	78.11
	NO	27	21.09	21.09	100.0
	Total	169	100.0	100.0	

Q1 Are you a part of any virtual team?

Findings: During questionnaire survey, majority of managers in different companies in the UAE responded that they are a part of some or the virtual team(s) in their firms. Nearly 78.11% of the managers responded in this manner. This supports the studies that virtual teams are becoming very popular among multinational and international business organizations. Furthermore, these managers said that the top management is increasing its focus on and developing newer strategies through which virtual teams can be developed and managed at the workplace.
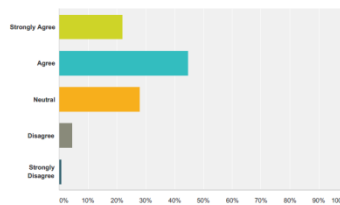
Data Analysis: On analyzing the quantitative data collected and presented above, it has been found that past studies on the topic have shown that virtual teams are the new way of developing and managing teams in companies operating on a vast geographical basis, i.e. multinational and international organizations. In this regard it may not be wrong to say that virtual teams are becoming a very common thing in firms operating in different industries. Through these kinds of teams, management can bring many efficient and effective talents and thus ensure that organizational tasks are carried out properly so that the final goal(s) can be attained with ease and comfort. Moreover, these studies have also shown that more and more employees, regardless of their position in the company, are becoming a part of such virtual teams.

Team formation

Result:

Q2: Do you feel that the team you are a part of is formed by keeping in mind all factors and project objectives?		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	0.76	0.76	0.76
	Disagree	6	4.55	4.55	5.31
	Neutral	37	28.03	28.03	33.34
	Agree	59	44.70	44.70	78.04
	Strongly Agree	29	21.97	21.97	100
	Total	132	100.0	100.0	

Q2 Do you feel that the team you are a part of is formed by keeping in mind all factors and project objectives?

Findings: According to the selected managers, 21.97% responded stating that teams are developed keeping in mind different factors as well as objectives and goals the company is looking to attain through these teams. These managers further opined that this is a very basic aspect of formulation of teams and is given a lot of attention and precedence in the company. Herein it may not be wrong to say that by following this aspect, there are much better chances for the management to build effective teams that would make effective contributions to attainment of organizational goals and objectives.
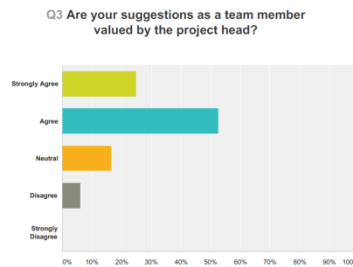
Data Analysis: In modern day business organizations, the role and importance of working through teams has gained significant popularity. As analyzed from the data, it has been found that team formation should consider all significant factors. It is becoming a very crucial part on which success of companies is dependent. Additionally past researchers found that during the process of development of teams, it is crucial that all factors and objectives be kept in mind. They lay down the foundation for success and effectiveness of teams. Thus it can be said that teams must be developed, i.e. members must be decided on the basis of objective(s) that the firm

is looking to achieve. This will help in fulfilling the goal(s); and thus make the team(s) successful.

Suggestions are valued by project head

Result:

Q3: Are your suggestions as a team member valued by the project head?		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	7	5.30	5.30	5.30
	Neutral	22	16.67	16.67	21.97
	Agree	70	53.03	53.03	75
	Strongly Agree	33	25	25	100
	Total	132	100.0	100.0	

Q3 Are your suggestions as a team member valued by the project head?

Findings: Majority of the managers stated when they give an opinion or suggest something; it is properly and positively received by the project head. Nearly 53.03% managers responded that their suggestions are valued and are considered by the project head. This is support of findings of past studies which state that team leaders must give value to the opinions of their team members. This way performance and functioning of the team can be improved significantly, primarily because it would give the team members a feeling of belongingness towards the team.

Data Analysis: In order to ensure that team functions properly, it is crucial for the management and top authorities to give equal importance and attention to every group member. In many past studies on the topic of human resource management have determined that if opinions and suggestions of the team members are given proper importance and value, then they can be motivated and made loyal towards the team as well as the organization. If their opinions are not considered then they could
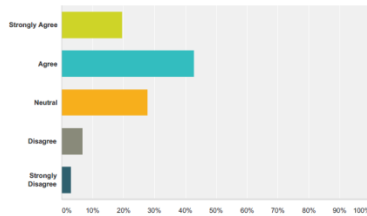
become dissatisfied and develop feeling that they are not important for the company. Thus eventually their contribution and dedication would decrease.

Team members trust one another

Result:

Q5: Do team members in your team trust each other's' capabilities?		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	3.03	3.03	3.03
	Disagree	8	6.06	6.06	9.09
	Neutral	37	28.03	28.03	37.39
	Agree	57	43.18	43.18	80.57
	Strongly Agree	26	19.70	19.70	100
	Total	132	100.0	100.0	

Q5 Do team members in your team trust each other's' capabilities?

Findings: 43.18% of the managers stated that team members in their respective teams share mutual trust for one another. According to them, it is the key to success and a lot is dependent on this aspect alone. It can be supported through the past studies on this topic, which determined that trust motivates and enables the members to perform their tasks and duties in such a manner which helps in attainment of final objective. But there were many managers as well who responded that members of the team that they are a part of do not trust one another. This has resulted in a very bad performance of the group and eventually non-attainment of the target or goal.
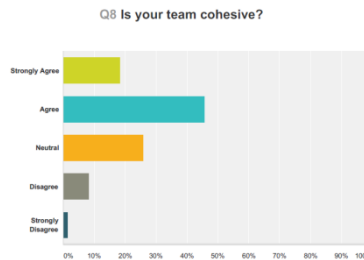
Data Analysis: Trust among the team members is an essential aspect for effective working of teams. Previous researcher have determined that if the members do not trust one another, then there are very less chances for the team to achieve success and be able to achieve its goals and objectives. It is the most important thing on the basis

of which teams can attain success and contribute to organizational goals and objectives. Studies have also shown that trust is crucially important among members of a virtual team. This is because if they do not trust one another, then the team cannot function properly and fulfill its goals.

Team Cohesiveness

Result:

Q8: Is your team cohesive?		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	2.27	2.27	2.27
	Disagree	11	8.33	8.33	10.6
	Neutral	34	25.76	25.76	36.36
	Agree	60	45.45	45.45	81.81
	Strongly Agree	24	18.18	18.18	100
	Total	132	100.0	100.0	

Q8 Is your team cohesive?

Findings: During the survey 45.45% of the respondents opined that team that they are a member of is cohesiveness in nature. They further stated that this has been one of the main reasons behind success of the organization. According to many past researchers, companies have been able to fulfill their goals and withstand competition in the industry; team cohesiveness is the key to it. This can be supported by saying that modern day organizations are paying a lot of attention to this phenomenon. But 23% respondents were neutral to this question. Herein it can be said that these respondents either don't believe that there is a proper and effective relationship between them and the other employees; or they are indifferent towards the team and they just focus on their growth and development in the company.
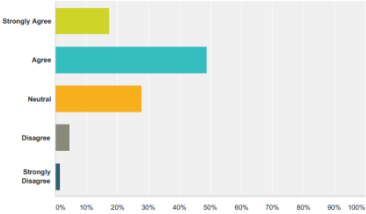
Data Analysis: One very important aspect of working of business organizations is proper and effective team cohesiveness. It enables team members to work to the best of their abilities and thus contribute towards organizational goals in a significant manner. In many studies and real life situation it has been observed that team working has helped business firms to succeed. Therefore team cohesiveness is of significant importance for companies. There are many uses and benefits of it. Studies show that it motivates the employees and enable them to perform to the best of their abilities. Team cohesiveness result in building a relationship between team members, as they would support one another in order to complete the tasks and duties given to them on an individual as well as in the form of a team.

Disagreements are resolved peacefully

Result:

Q9: During disagreements over some issue, they are addressed promptly through peaceful discussion?		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	1.51	1.51	1.51
	Disagree	5	3.78	3.78	5.29
	Neutral	37	28.03	28.03	33.32
	Agree	65	49.24	49.24	82.56
	Strongly Agree	23	17.42	17.42	100
	Total	132	100.0	100.0	

Q9 During disagreements over some issue, they are addressed promptly through peaceful discussion?

Findings: Primary data collection process revealed that teams do peaceful discussions in order to resolve different issue(s) and problems faced by them. During the study it was noted that majority of companies where performance is measured on

the basis of teams, peace and harmony is of critical importance. On basis of responses given by the respondents, it can be said that they too agree with the above statement. Disagreements are bound to happen among team members at some point or the other. The best to solve them is through peaceful discussions. It helps in motivating the employees and to building a trust based environment at the workplace and in the team.
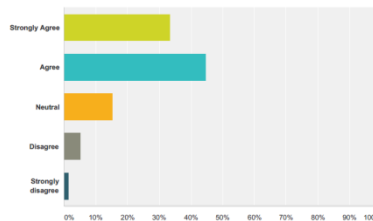
Data Analysis: For teams it is of utmost importance that disagreements be resolved in a peaceful manner. Many studies and past researchers through their investigations have determined that a peaceful solution to a problem or disagreement is the best way to improve the functioning of a team. If there is any disagreement between the team members, then it is crucial that they are resolved peacefully, because such situation can create a very tense environment within the team, negatively affect its working. Studies in the past have shown that peace and harmony in a group enables its members to perform at the best of their abilities and contribute in attainment of team goal(s).

Team Leader is cooperative and democratic

Result:

	Q12: The team leader for your team is friendly and welcomes ideas, feedback and suggestions.				
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	1.52	1.52	1.52
	Disagree	7	5.30	5.30	6.82
	Neutral	20	15.15	15.15	21.97
	Agree	59	44.70	44.70	66.67
	Strongly Agree	44	33.33	33.33	100
	Total	132	100.0	100.0	

Q12 The team leader for your team is friendly and welcomes ideas, feedback and suggestions.

Findings: During the study almost half of the total respondents stated that their team leader(s) are friendly in nature. They easily accept new ideas and suggestions from the team members, with which they aim to improve overall functioning of the team and make it even more efficient and effective. According to these members, it is the nature and style of the leader that motivated them to perform to the best of their abilities and make significant contributions to competing tasks given to them in efficient and effective manner.
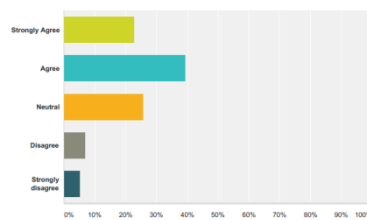
Data Analysis: For any team or group to function in an efficient, effective and successful manner, the role of team leader is integral. If leaders use the right approach to lead and guide the team, then there are much better chances for the group to succeed and contribute to organizational goals and objectives. Furthermore, numerous studies have shown that democratic leadership style is best and most effective one. If the leaders do not use such a style where the members feel comfortable, dedicated and committed to the group objective, then there are severe chances that the team will not be able to function properly and thus will not achieve the target or goal assigned to it.

Training and Development

Result:

Q15: The organization provides you with sufficient training to improve your skills and competencies as per the project requirements.		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	5.30	5.30	5.30
	Disagree	9	6.82	6.82	12.12
	Neutral	34	25.76	25.76	37.88
	Agree	52	39.39	39.39	77.27
	Strongly Agree	30	22.73	22.73	100
	Total	132	100.0	100.0	

Q15 The organisation provides you with sufficient training to improve your skills and competencies as per the project requirements.

Findings: On basis of primary data it can be noted that modern day workplaces that consist of a team based environment pay a lot of attention towards training and development aspect. Based on responses from the sample population, the two mentioned phenomenon have a crucial role to play in an organization. According to the respondents, the company they work for provides ample training and development opportunities, an approach through which it aims to improve performance of the employees and their ability to contribute to organizational goals and objectives.
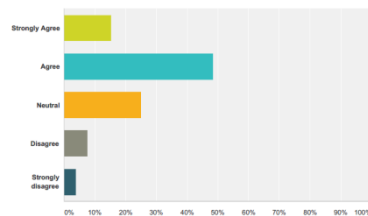
Data Analysis: One of the most important aspects of managing a team and making it perform effectively is by focusing on training and development of the team members. Various past studies have shown that one of the main reasons behind success of a group is the extent of training and development opportunities being provided to them. By giving such opportunities in adequate numbers, then team members can be motivated, as aspect of their professional development can be managed in an effective manner. Moreover, training and development sessions or workshops help in developing peace in the team and environment of trust can also be developed. This is because the members get a chance to understand one another; thus they can work in peace, harmony and synchronization.

Management Support

Result:

Q19: The management of the organization allows its employees to take part in important decision making.		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	3.79	3.79	3.79
	Disagree	10	7.58	7.58	11.37
	Neutral	33	25	25	36.37
	Agree	64	48.48	48.48	84.85
	Strongly Agree	20	15.15	15.15	100
	Total	132	100.0	100.0	

Q19 The management of the organisation allows its employees to take part in important decision making.

Findings: Primary research revealed that 48.48% of the respondents believe that they receive proper and thorough support from the management in carrying out different team functions and duties effectively and efficiently. Therefore it can be said that the teams who have received such backing from the authorities have succeeded and are critical part of working of the organization. But on the other hand, there were some respondents who stated that they have not received thorough support and help from management in their organization. This has negatively affected their performance as well as commitment and dedication towards the workplace.

Data Analysis: Main ingredient for success of any team is the support it gets from the top management. Studies have shown that it is the most important factor. If teams do not get proper support from the management, then the team cannot succeed, primarily because of reason that it would not have sufficient access to proper resources and tools necessary for carrying out the operations. Further, many researchers believe that management support can be the difference in success and failure of a team. Thus it is critical to receive/avail and manage the same in an effective manner. Additionally, if
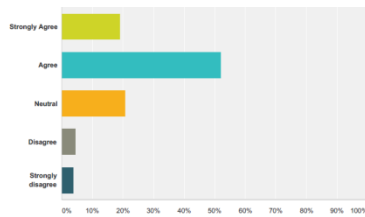
there is proper management support, then employees can be motivated with ease and comfort; this way their loyalty and dedication towards the workplace can be obtained easily.

Positive Leadership Style

Result:

Q22: The organization ensures a positive and friendly work environment for all its employees.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	3.82	3.82	3.82
	Disagree	7	4.58	4.58	8.4
	Neutral	27	20.61	20.61	29.01
	Agree	68	51.91	51.91	80.92
	Strongly Agree	25	19.08	19.08	100
	Total	132	100.0	100.0	

Q22 The organisation ensures a positive and friendly work environment for all its employees.

Findings: Primary research shows that majority of the respondents believe that their team leader uses positive leadership style. In this sense it can be said that teams of these respondents are successful and have been a major contributor to effective performance of their respective organizations. In addition to it, the respondents also stated that one of the main reasons for success of any team is the leadership. Such approach to leading a team helps in motivating the members and effectively guiding and helping them to carry out their tasks and duties in an efficient manner.

Data Analysis: Leadership is the key aspect of working of any team or group. Numerous studies support this facet. According to many researchers and experts in fields of human resource and team management have stated that leaders need to be positive and use a positive approach to lead the members and guide them towards effective completion of tasks and duties. This is the key to success for any team and thus an organization. Leadership style influences the team members, thus their

working and performance to a great extent depends on what kind of leadership style is used by the leader.

6.00   DISCUSSION

The primary aim of this study is to determine the success factors that contribute to Virtual Distributed Projects. This has been done by gathering research from the sample population made up of British University students along with the employees at the Ministry of Human Resources and Emiratization. We found that most of the participants were part of virtual teams in one way or the other. We trusted the integrity of the results that we had gathered, which seemed to show that teams valued keeping their objectives in mind, being open to suggestions, trusting each other, cohesively working with one another, peacefully solving disagreements and implementing training to succeed in their virtual teams. Each and every question that we put forward to them was answered by the participants, and the results of this study will be analyzed to come to a conclusion about the research question - what are the primary success factors of the Virtual Distributed Project?

This study was designed to successfully capture the very essence of what makes virtual distributed projects tick, and about 5.31% of the participants disagreed in one way or other when they were asked whether their team followed the objectives that they were presented with. This means that a very small percentage of the overall people involved in virtual projects actually believed that their teams were not focused on the goals of the team. This means that most of the teams that are involved in virtual projects agree with Sampietro & Villa (2014).

As mentioned, Sampietro & Villa (2014) believe that each and every member of the team should be focused on accomplishing the overall goals and objectives of the project. There should be no team member that does not actively work towards the goals of the project. This is why 44.7% of the participants agreed that objectives were being followed by each member of their teams, while 21.97% of the participants strongly agreed with the statement.

It goes a long way to show that any organization that wishes to implement any level of success in their projects need to keep their goals in mind. The study also agrees with Powell et al. (2004), who specifically indicated that a consistent understanding

of project goals was important to virtual distributed projects, the reason being that there was a continual lack of face to face interaction between the different members of the team. This presents the irrefutable fact that knowing project goals and keeping them in mind throughout the project life cycle is an important critical success factor for virtual projects.

This brings us to the fact that a mere 5.30% of the participants believed that their suggestions were not valued by their team managers. This bit of the dissertation is incredibly important because it shows that most virtual teams are following the advice of researchers and implementing the critical success factors of virtual distributed projects into their own VDPs. These participants are members of virtual teams, and it is obvious that their behavior should be similar to the actions of a successful virtual team, these actions indicated by previous researchers in the field.

This is exactly what happens in this dissertation, as most of the participants at 53.03% seem to agree that their suggestions are valued by their project leader, while another 25% strongly agreed to the statement. It seems as though these virtual teams are following the advice of Too & Weaver (2014). Too, & Weaver (2014) believed that before any aspect of the project is implemented, the final suggestions from the various team members should be taken under consideration. Kisielnicki (2011) had actually taken it a step further in saying that there should be perfect and open communication between the team leader and the staff, so that any feedback could be taken under consideration during all stages of the project.

Buergi & Oertig (2013) had actually suggested that every virtual team have a central communication platform where every member of the team could voice their opinions. It seems as though the teams that were surveyed for this research share the opinions of Too & Weaver (2014), Kisielnicki (2011) and Buergi & Oertig (2013).

When asked whether they actually trusted each other's capabilities, a mere 9.09% of the participants indicated that they did not trust one another. This result is important because it shows the general popularity of trust in the capabilities of their peers. A full 43.18% agreed with the statement, while 19.70% of the participants strongly agreed with the statement.

According to Germain and McGuire (2014), trust is an important aspect of virtual projects. It seems as though 62.88% of the participants agree fully with Germain and McGuire (2014). People in a virtual project do not spend much time with one another face to face. They have no reason to trust someone who is connected to them through a computer, but this is exactly what they need to do in order to succeed. It seems as though they know this, and this is why the majority of the participants of this study indicate that they trust each other.

Kisielnicki (2011) indicated that team members should nurture one another and create a positive influence on one another, and it is obvious that project members know that the best way to do this is to trust each other's capabilities. Also, one primary reason for this might be explained by the fact that in a virtual project, overcoming communication challenges can only be done through trust (Gissel, Tanhua & Fehling, 2013, p.1).

Team cohesiveness is an integral aspect of project management which indicates that projects only succeed if project team members work together cohesively with one another. About 63.63% of the participants believed that their teams were working cohesively with one another. Thal et al (2007) indicated that a distributed project was one where actions were carried out globally, but wrote an important point that might have been ignored by casual readers, but has a much deeper meaning to project teams and project management academics. They used the term 'together' to describe these various individuals or teams working together on a single project – which is what shows that any virtual project needs teams that are working cohesively with one another.

Any team or individual which exists in a physical environment is required to create the individual aspect of the overall team and join it with the overall project to achieve success. Harley, (2003) also spoke about the importance of teamwork, and this is exactly what is one of the main drivers of success of virtual distributed projects. It is also one of the many indicators of any successful project according to Bougault (2008).

With 66.66% of the participants in agreement with the fact that their teams undertake peaceful discussion, it is important to consider this as a success factor for virtual distribution teams. Yes, this is not an obvious success factor that many researchers explicitly mention in their research. In fact, only Powell et al. (2004) indicates that resolution of conflict is integral to the success of a project, although it is quite advantageous to this study that Powell et al. (2004) is a research study specifically on virtual projects.

However, there are very few other studies that focus specifically on resolution of conflict in virtual distributed projects. Our study might be one of the first that specifically concentrates on this critical success factor, but it is an obvious success factor due to the staggering number of people who agree to using this in their virtual projects. Only about 5.29% of the participants actively disagree with the use of peaceful disagreement, which is quite a small percentage of the overall sample size.

This brings us to the importance of the team leader, and a leader that welcomes ideas and feedback. About 78.03% of the participants wholeheartedly agreed that they had this kind of leader, while 6.82% of the participants indicated that they did not. The results of this are quite shocking. It seems as though most of the participants had a leader who was welcome to their ideas and feedback. It goes to show that Bergiel et al. (2008) were right – leadership is shared among the various members of a virtual team.

However, they were wrong about one fact – virtual teams did have leaders. They were not completely flat hierarchies with every individual working on their own, instead the team did respond to a single leader who made the decisions after listening to the feedback and opinions of his team. With the number of participants who follow this train of thought, it seems as though democratic leadership in virtual teams has become the reality in today's world.

This dissertation also examines training as a critical success factor for virtual distributed projects. It is hard to imagine a scenario where people automatically know exactly what to do, and this is because these situations are almost non-existent in today's world. People will always require instruction, and what better way to prove

this than through the 62.12% of participants that agreed and strongly agreed that their organizations provided them with training. In any scenario, regardless of how easy a project is, it is impossible to deny that there will always be individuals who will be unable to match the required standards for performance.

Powell et al. (2004) believed that formal training could eliminate any and all lack of competency among the members of a virtual team. In fact, the results of this study serve to prove two facts irrefutably. One is that training is absolutely integral to the success of any project, while the other is that risk response is quite high among the sample population. According to Powell et al. (2004), risk response can be improved greatly by training, and since training is such an integral aspect of virtual project management among the sample population, it translates to better risk management among these teams.

Decision making is another important process in virtual project management, and the opinions of the employees seems to be quite essential in any decision making process. This study indicated that only 11.37% of the population actually felt that their managers did not listen to their opinions on important decisions, while a cumulative 63.63% of the participants agreed wholeheartedly that they were allowed to make important inputs to the decision making process. Raval et al (2010) felt that this was an important aspect of any virtual project because of the advantage that it offered.

If employees were more involved in the decision making process, they could make important decisions without needing to consult other parts of their virtual project management team. This meant that time and distance constraints could be overcome quite easily. Bottlenecks are no longer created because one part of the virtual team is waiting for a response from another part of the team, because they have already made their decisions on the matter.

Finally, the participants are asked about their workplace environment. More than 60% of the participants agreed that their workplace environment was a positive and friendly environment for them and their colleagues. However, while this might positively affect a virtual environment, it is not integral to the success of the project. Anderson et al. (2007) has indicated that instead of a friendly and positive workplace

environment, one needs to ensure that the workplace is backing by technological advancements that can help the virtual team. Virtual teams have the tendency to use technology to communicate with one another as well as for a wide range of purposes such as process control, and technological advancements in the workplace are likely to be much more useful than a positive and friendly workplace environment.

In fact, another reason why there are about 8.4% of the participants who indicate that their workplaces are not positive or friendly is that they might work in a workplace where they do not need face to face communication. Most of their work might be over a network, which does not require their workplace itself to be positive and friendly. In turn, the leader can ensure that the virtual workplace can have a positive reinforcement by providing a virtual communicate platform to motivate employees to contribute to the best of their abilities.

In each of these cases, it seems as though virtual projects are not similar to regular face to face projects. Virtual projects have success factors which are in some ways more effective, while being less effective in others. It is possible to have a leader who does not listen to the opinions of employees in a regular project, but as evidenced by this study, it is impossible to have such a leader in a virtual team. Employees should be able to make their own decisions, as bottlenecks are quite easy to encounter in virtual projects as individuals wait around for decisions to be made.

7.0　RECOMMENDATION AND CONCLUSION

7.1　CONCLUSION

Through the study made in the present dissertation, the efforts are made to deliver the significance of the study. The topic which is chosen as a part of study is important because in modern day industries are extremely competitive in nature, as companies compete with one another for even the smallest amount of share in the market. This is the reason why the present research was undertaken with an importance to get in-depth knowledge and understanding about the critical success factors of virtual distributed projects.

Thence, with this approach, the current work is conducted with the formulation of various objectives. These are inclusive of investigating about the primary success factors of the Virtual Distributed Project. The objective of this paper is to explore critical success factors of Virtual Distributed Projects. As mentioned earlier, the main disadvantage of the Virtual Distributed Project is that it is not easy to track the performance and contribution of members of a project who are spread throughout the world. The project thus assisted in ensuring success factors of projects can overcome issues arising while working on virtual projects.

For this numerous studies show that a basic aspect for helping any organization to succeed only through teams. Thus it is also found as an important part for success of companies. It is important for organization to ensure that the teams function properly, to ensure that performance of the firm is as per standards and expectations. If it is not managed properly, then there are very less chances for the concerned firm to succeed and survive in the market. On many occasions and in many studies it has been found that companies have succeeded because they have paid a lot of attention towards maintaining and developing teams in such a manner that their contribution to organizational goals is significant. Over the years there have been numerous changes, developments and modifications in approaches of working of the teams. One of the recent ones is the rise of virtual teams. Such groups are spread across vast

geographical locations. This means that the members of these kinds of teams stay connected to one another by using technology.

On account of considering the distinction contribution of various scholarly works taken, the distinctive paper work presents about the advent of internet as the pinnacle of development of 'virtual teams'. Developments in technology have changed the way teams function and carry out their tasks and duties. Today companies are operating at large scale, meaning that organizations function at either multinational or international level. Therefore virtual teams are the concept that is used by companies. Technology has improved significantly over the years, in relation to that, it is necessary to understand the concept of virtual distributed projects. It is necessary to improve the current field of knowledge which people have on these types of projects. Companies are dividing their operations are distributing among these located at different places geographically. This essentially means that the virtual teams work on distributed projects. Here team leaders are required to allocate work to different individuals on the basis of their talent and role in the firm. A virtual team is one that operates over boundaries of time and space using technological advances in information systems. Virtual teams are made up of team members who are located in multiple locations. Computer mediated communication has helped project teams work around geographical borders coordinate their efforts and resources. Whether it is email, video conferencing or communication through telephones, virtual project teams can work around any geographical differences by using these means of communication.

The main rationale behind undertaking the critical review of the literature is to acquire the in depth knowledge and understanding of the concept of virtual distributed projects and the success factors pertaining to the same. The entire work of scholars has been concluded. As concluded from the viewpoint of Ebrahim and et.al (2009), idea behind virtual project work has been sum up and is found that these can be differentiated into number of forms. These are based on manner of undertaking interaction between the members and the number of individuals involved. Further, on analyzing the assertion provided by Cascio and Shurygailo (2003), the classification

of two variable principles has been concluded. It was assessed through their viewpoint that there are four types of virtual project teams which as per their ideology is classified as Teleworkers, Remote team, Matrixed teleworkers and Matrixed remote teams.

The study of literature review presented in the present work has been further concluded by evaluating the work of Goncalves, according to whom there are several critical success factors that contribute effective role in the development of these work based projects. As per their viewpoint, these critical factors are sum up as Risk Management, Team Motivation, Planning, Strong Project Closure, Clarifying Objectives, Technology, Selection of Team Members and Management Support. The entire study made in literature review section proved to be great resourceful in gaining academic knowledge in relation with the present research being undertaken.

Through the present study, various aspects have been achieved. The contributions have been ascertained to the degree to which virtual teams are spread geographically can vary over different project teams. There are four main types of virtual teams namely teleworkers, remote teams, matrixed teleworkers and matrixed remote teams.

> Teleworkers: Teleworkers work completely outside their main company workplace using information.

> On and telecommunication services. These projects are often based in one location, but require the team members to use telecommunication services outside their company's workplace.

> Remote Team: Remote teams, like teleworkers have one manager but are usually based in multiple locations. These are individuals who are part of several different companies and wish to collaborate on a single project.

> Matrixed Teleworkers: These teams are those that work similar to teleworkers, but have multiple managers who look over different aspects of the team.

> Matrixed Remote Teams: These are teams that are based in multiple locations and have multiple managers who all collaborate and work together towards a single goal.

With regards to different academic and managerial work done, there are a number of factors and forces that need to be paid attention to in order to manage a team successfully and make it a success. The critical success factors which have been achieved through the present research are explained further. The first of these critical success factors is planning. Planning is an essential element because all projects should have a clear plan which the project manager can present to the team members. The team members should understand exactly what the project's milestones are, and what steps will come together to complete the project. They need to know what the project will hope to deliver. The manager should have created an adequate timeline over which a project can be completed. This allows the team members to create an accurate cost outline. The resource requirements for the project should have also been outlined during the planning stage. However, the most important contribution of the project plan is the fact that it inspires the various team members. It gives them a clear goal to work towards, and helps them make the decisions that they need to reach those goals.

The next critical aspect that a successful project requires is motivation. Not one team member will be able to contribute to the success of the company if he or she is not motivated enough. A motivated team member will move towards the goals of the team with enthusiasm and determination, much more than a de-motivated team member. It is important that the project manager let an employee know when he or she is doing well, just so that the appreciation translates to even better future contribution to the team. Similarly, negative contribution should be met with criticism so that the team member knows that it is time to step up their contribution.

To conduct this study, deductive research approach was used by the scholar. Main reason behind using this approach was that on many occasions various studies have been conducted. This way the researcher was able to collect adequate amount of information on the subject matter and use it properly, ensuring that the study is carried out easily and effectively. To collect primary data questionnaire survey was conducted while secondary data was collected by reviewing past journals, magazines, etc. To evaluate and analyze the data qualitative technique has been used. Here

different themes on basis of responses from the selected individuals are made and presented in form of graphs and pie charts.

7.2   RECOMMENDATIONS

During the study it was noted that though majority of the respondents said that they were a part of some or the other virtual team, but there were considerable number of individuals, almost 33%, who replied that they are not a part of such teams in their organizations. This presents a very serious condition of companies, indicating that their scale of operations is not very effective, as they are not operating across geographical boundaries. If these small organizations in the UAE aim to succeed then they need to devote time to increase the scale of their operations to such a level that they can develop their own virtual teams. This would break monotony of their employees and make them feel that they are a part of something big. It is a crucial decision considering the fact that these organizations are small in size. But such decisions need to be taken if the firm has to sustain in the market.

45% respondents replied that teams in their organizations are formed or developed on basis of different factors and project objectives. According to these employees, it is the most important part of developing a team and making it function as per organizational goals and objectives. But the top management of these organizations need to understand that they must not only consider factors associated somehow with the project objectives, but they must also evaluate strengths, weaknesses, capabilities, etc. of the individuals whom they want to make the team of. This way many effective teams can be developed which would be able to achieve goals and targets assigned to them in a much easier and effective manner.

On basis of evaluating the past studies and investigations, through secondary literature review it was found that for a team to succeed, cohesiveness is of critical importance. It helps in developing a through and positive relationship between the members and motivates them to work with one another for a common objective. During the primary research the same was supported by the respondents. But there were some employees who stated that they are neutral, this could mean that

cohesiveness in their teams is less or negligible. Thence, in line of future research, it is recommendable to make proceed with further future research. Researchers can further work to investigate about the management of such companies to conduct some team development exercises so that environment of peace and harmony can be developed among the team members and make them work with one another by helping each other. The future research is further recommendable to be undertaken in direction of assessing the effectiveness of the explored critical success factors in the present research for virtual distributed projects In similar fasion, the further research can also be conducted for exploring the pros and cons that are gained from making use of the virtual distributed projects.

However, after reviewing such successful; outcomes from the present research, there are some limitations as well which also has been found out. The limitation of disagreements is bound to happen among the team members at some point or the other. But it is crucial that the same be resolved through peaceful methods such as discussions, etc. During the study, it was noted that in majority of companies, such issues are solved through these peaceful methods only. But many employees opined that in their teams such methods are not put to use. Due to this reason performance of the teams declined considerably. Another limitation is regarding the mechanism of project. In this regard it can be suggested to these organizations that they need to develop a mechanism wherein such issues and disagreements are resolved through peaceful methods, so as to ensure that motivation levels of team members is not affected in a negative manner and that they continue to contribute to group and organizational goals. Another limitation which is required to be addressed is in regards of assessing the ways that help to improve the overall; l performance of the organization. This eventually will enable the organizations to improve their overall performance and ensure that team members share positive relations with one another and are loyal towards the team and the company. Herein techniques such as face to face or one on one discussion with concerned person(s) can be used by the authorities.

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8.0   APPENDIX

8.1   Appendix1 - Survey Questions

	Questionnaire: An Exploration of Critical Success Factors Of Virtual Distributed Projects					
		Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	Are you a part of any virtual team?					
2	Do you feel that the team you are a part of is formed by keeping in mind all factors and project objectives?					
3	Are your suggestions as a team member valued by the project head?					
4	During the first meeting of the team, was enough time spent on the team building exercises to get to know your team members?					
5	Do team members in your team trust each other's' capabilities?					
6	Do you rely upon other members of the team to complete your assigned work?					
7	Is knowledge and information sharing considered to be a norm in your team?					
8	Is your team cohesive?					
9	During disagreements over some					

	issue, they are addressed promptly through peaceful discussion?	
10	Timely team meeting are held to keep the track of progress of the project?	
11	Your team members always recognise and acknowledge the collective talents and use them from the beginning?	
12	The team leader for your team is friendly and welcomes ideas, feedback and suggestions.	
13	All team members feel the same about the team leaders, that they are helpful and supportive.	
14	Team leaders ensure that members are provided with clear goals to achieve.	
15	The organisation provides you with sufficient training to improve your skills and competencies as per the project requirements.	
16	Organisation acknowledges and rewards those individuals who perform well in the projects.	
17	Organisation also ensures that teams who deliver desired results are appreciated and rewarded.	
18	Organisation supports the team in	

	all possible manners to keep them going.	
19	The management of the organisation allows its employees to take part in important decision making.	
20	The leaders of the organisation serve as a positive role model to the employees, motivating them to deliver their best.	
21	The organisation has equipped the team with required tools and technologies of high quality to ensure that tasks are performed properly.	
22	The organisation ensures a positive and friendly work environment for all its employees.	

8.2   Appendix2 - Survey Findings

The Survey where shared online by survey monkey to the following:

- British University Students (PHD + Masters Students)
- Ministry of Human Resources and Emiratization (Employees) – 1200 Employees

Numbers of responses were **169**, **37** Surveys were excluded because it's either uncompleted or they were not a part of any virtual team. So I was left with **132** responses.

The findings were used by a professional program called SPSS.
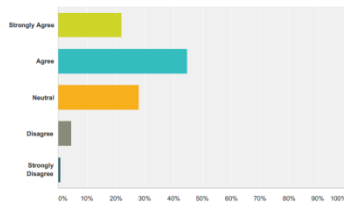
Q1: Are you a part of any virtual team?

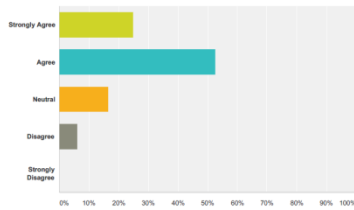|		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	132	78.11	78.11	78.11
	NO	27	21.09	21.09	100.0
	Total	169	100.0	100.0	

Q1 Are you a part of any virtual team?

Q2: Do you feel that the team you are a part of is formed by keeping in mind all factors and project objectives?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	1	0.76	0.76	0.76
	Disagree	6	4.55	4.55	5.31
	Neutral	37	28.03	28.03	33.34
	Agree	59	44.70	44.70	78.04
	Strongly Agree	29	21.97	21.97	100
	Total	132	100.0	100.0	

Q2 Do you feel that the team you are a part of is formed by keeping in mind all factors and project objectives?

Q3: Are your suggestions as a team member valued by the project head?

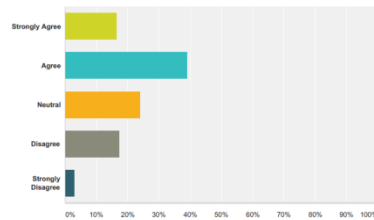|		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	7	5.30	5.30	5.30
	Neutral	22	16.67	16.67	21.97
	Agree	70	53.03	53.03	75
	Strongly Agree	33	25	25	100
	Total	132	100.0	100.0	

Q3 **Are your suggestions as a team member valued by the project head?**

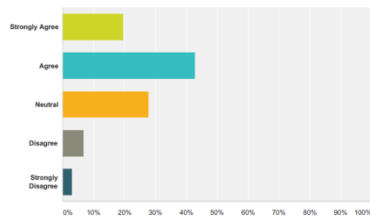## Q4: During the first meeting of the team, was enough time spent on the team building exercises to get to know your team members?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	3.03	3.03	3.03
	Disagree	22	16,67	16.67	19.7
	Neutral	32	24.24	24.24	43.94
	A gree	52	39.40	39.40	83.34
	Strongly A gree	22	16.67	16.67	100
	Total	132	100.0	100.0	

Q4 **During the first meeting of the team, was enough time spent on the team building exercises to get to know your team members?**

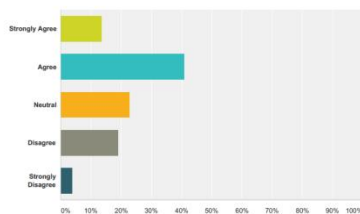## Q5: Do team members in your team trust each other's' capabilities?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	3.03	3.03	3.03
	Disagree	8	6.06	6.06	9.09
	Neutral	37	28.03	28.03	37.39
	A gree	57	43.18	43.18	80.57
	Strongly A gree	26	19.70	19.70	100
	Total	132	100.0	100.0	

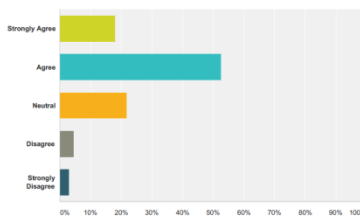Q5 **Do team members in your team trust each other's' capabilities?**

Q6: Do you rely upon other members of the team to complete your assigned work?		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	3.79	3.79	3.79
	Disagree	25	18.94	18.94	22.73
	Neutral	30	22.73	22.73	45.46
	Agree	54	40.91	40.91	86.37
	Strongly Agree	18	13.64	13.64	100
	Total	132	100.0	100.0	

Q6 Do you rely upon other members of the team to complete your assigned work?

Q7: Is knowledge and information sharing considered to be a norm in your team?		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	3.03	3.03	3.03
	Disagree	5	3.78	3.78	6.81
	Neutral	29	22.00	22.00	28.81
	Agree	70	53.03	53.03	81.84
	Strongly Agree	24	18.18	18.18	100
	Total	132	100.0	100.0	

Q7 Is knowledge and information sharing considered to be a norm in your team?

Q8: Is your team cohesive?		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	2.27	2.27	2.27
	Disagree	11	8.33	8.33	10.6
	Neutral	34	25.76	25.76	36.36
	Agree	60	45.45	45.45	81.81
	Strongly Agree	24	18.18	18.18	100
	Total	132	100.0	100.0	

Q9: During disagreements over some issue, they are addressed promptly through peaceful discussion?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	1.51	1.51	1.51
	Disagree	5	3.78	3.78	5.29
	Neutral	37	28.03	28.03	33.32
	A gree	65	49.24	49.24	82.56
	Strongly A gree	23	17.42	17.42	100
	Total	132	100.0	100.0	

Q9 **During disagreements over some issue, they are addressed promptly through peaceful discussion?**

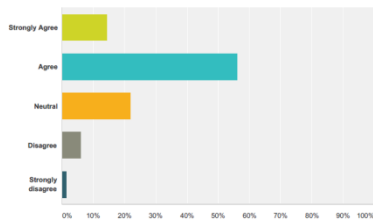| Q10: Timely team meeting are held to keep the track of progress of the project?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	3.03	3.03	3.03
	Disagree	5	3.79	3.79	6.82
	Neutral	29	21.97	21.97	28.79
	A gree	67	50.76	50.76	79.55
	Strongly A gree	27	20.45	20.45	100
	Total	132	100.0	100.0	

Q10 **Timely team meeting are held to keep the track of progress of the project?**
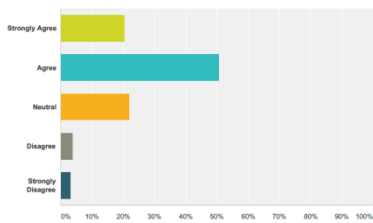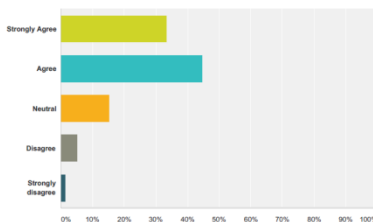
Q11: Your team members always recognize and acknowledge the collective talents and use them from the beginning?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	1.52	1.52	1.52
	Disagree	8	6.06	6.06	7.58
	Neutral	29	21.97	21.97	29.55
	Agree	74	56.06	56.06	85.61
	Strongly Agree	19	14.39	14.39	100
	Total	132	100.0	100.0	

Q11 Your team members always recognise and acknowledge the collective talents and use them from the beginning?
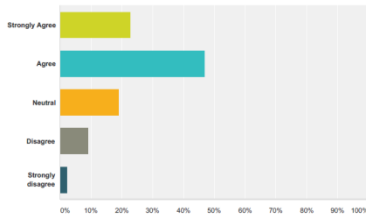

Q12: The team leader for your team is friendly and welcomes ideas, feedback and suggestions.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	2	1.52	1.52	1.52
	Disagree	7	5.30	5.30	6.82
	Neutral	20	15.15	15.15	21.97
	Agree	59	44.70	44.70	66.67
	Strongly Agree	44	33.33	33.33	100
	Total	132	100.0	100.0	

Q12 The team leader for your team is friendly and welcomes ideas, feedback and suggestions.

Q13: All team members feel the same about the team leaders, that they are helpful and supportive.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	2.27	2.27	2.27
	Disagree	12	9.09	9.09	11.36
	Neutral	25	18.97	18.97	30.33
	Agree	62	46.97	46.97	77.3
	Strongly Agree	30	22.73	22.73	100
	Total	132	100.0	100.0	

Q14: Team leaders ensure that members are provided with clear goals to achieve.

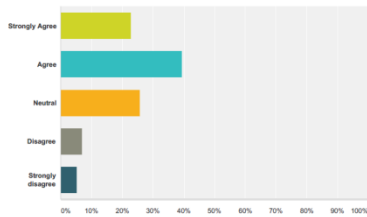|		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	3.03	3.03	3.03
	Disagree	3	2.27	2.27	5.3
	Neutral	27	20.45	20.45	25.75
	Agree	67	50.67	50.67	76.42
	Strongly Agree	31	23.48	23.48	100
	Total	132	100.0	100.0	

Q14 **Team leaders ensure that members are provided with clear goals to achieve.**

Q15: The organization provides you with sufficient training to improve your skills and competencies as per the project requirements.
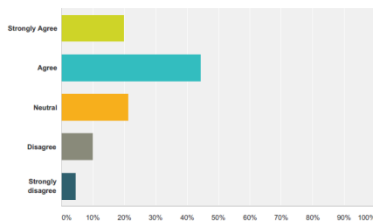
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	7	5.30	5.30	5.30
	Disagree	9	6.82	6.82	12.12
	Neutral	34	25.76	25.76	37.88
	Agree	52	39.39	39.39	77.27
	Strongly Agree	30	22.73	22.73	100
	Total	132	100.0	100.0	

Q15 **The organisation provides you with sufficient training to improve your skills and competencies as per the project requirements.**

Q16: Organization acknowledges and rewards those individuals who perform well in the projects.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	6	4.54	4.54	4.54
	Disagree	14	10.60	10.60	15.14
	Neutral	28	21.21	21.21	36.35
	Agree	58	43.94	43.94	80.29
	Strongly Agree	26	19.69	19.69	100
	Total	132	100.0	100.0	

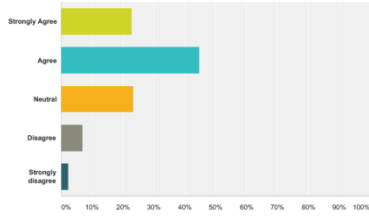Q16 Organisation acknowledges and rewards those individuals who perform well in the projects.

Q17: Organization also ensures that teams who deliver desired results are appreciated and rewarded.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	2.27	2.27	2.27
	Disagree	13	9.85	9.85	12.12
	Neutral	32	24.24	24.24	36.36
	Agree	56	42.42	42.42	78.78
	Strongly Agree	28	21.21	21.21	100
	Total	132	100.0	100.0	

Q17 Organisation also ensures that teams who deliver desired results are appreciated and rewarded.
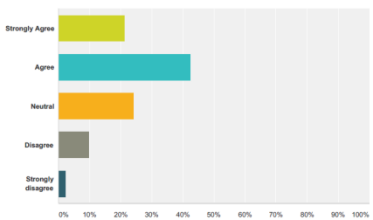
Q18: Organization supports the team in all possible manners to keep them going.					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	3	2.27	2.27	2.27
	Disagree	9	6.82	6.82	9.09
	Neutral	31	23.48	23.48	32.57
	Agree	59	44.70	44.70	77.27
	Strongly Agree	30	22.72	22.72	100
	Total	132	100.0	100.0	

Q19: The management of the organization allows its employees to take part in important decision making.

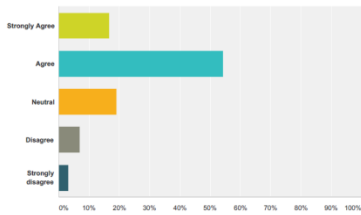|		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	3.79	3.79	3.79
	Disagree	10	7.58	7.58	11.37
	Neutral	33	25	25	36.37
	Agree	64	48.48	48.48	84.85
	Strongly Agree	20	15.15	15.15	100
	Total	132	100.0	100.0	

Q19 The management of the organisation
allows its employees to take part in
important decision making.

Q20: The leaders of the organization serve as a positive role model to the employees, motivating them to deliver their best.
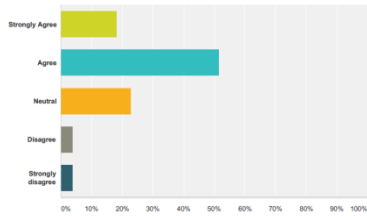
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	4	3.03	3.03	3.03
	Disagree	10	7.57	7.57	10.6
	Neutral	25	18.94	18.94	29.54
	Agree	71	53.79	53.79	83.33
	Strongly Agree	22	16.67	16.67	100
	Total	132	100.0	100.0	

Q20 The leaders of the organisation serve
as a positive role model to the employees,
motivating them to deliver their best.

Q21: The organization has equipped the team with required tools and technologies of high quality to ensure that tasks are performed properly.		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	3.79	3.79	3.79
	Disagree	5	3.79	3.79	7.58
	Neutral	30	22.73	22.73	30.31
	Agree	68	51.52	51.52	81.83
	Strongly Agree	24	18.18	18.18	100
	Total	132	100.0	100.0	

Q21 The organisation has equipped the team with required tools and technologies of high quality to ensure that tasks are performed properly.

Q22: The organization ensures a positive and friendly work environment for all its employees.		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Disagree	5	3.82	3.82	3.82
	Disagree	7	4.58	4.58	8.4
	Neutral	27	20.61	20.61	29.01
	Agree	68	51.91	51.91	80.92
	Strongly Agree	25	19.08	19.08	100
	Total	132	100.0	100.0	

Q22 The organisation ensures a positive and friendly work environment for all its employees.