



New Meeting Form in the Digital Working Environment Era

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Abstract: *Digital progress has had an impact on almost every aspect of human life, including the work environment. The digital era gave birth to an all-digital work environment, which gave birth to new forms of work, one of which was teamwork that could be carried out without the limitation of distance that is commonly called a virtual team through virtual meeting. This research using qualitative research method to collect data from respondents through deep interview. Respondent are selected by purposive sampling method with several consideration such as their engagement in virtual meeting process. The result of our study shows that quality of communication tools really influences the quality of virtual meeting and influence all the aspect of virtual meeting effectiveness. Our research also found that training not become significant needs because they quite familiar with the technology and they have IT division to prepare all supporting tools to prepare all tools for virtual meeting needs. Significant thing that must well prepare to make every virtual meeting effectively is quality of internet connection.*

Keywords: *Team virtual, virtual meeting, digital work environment, human computer interaction, digital teamwork*

I. INTRODUCTION

Digital progress has had an impact on almost every aspect of human life, including the work environment. The digital era gave birth to an all-digital work environment, which gave birth to new forms of work, one of which was teamwork that could be carried out without the limitation of distance that is commonly called a virtual team. All aspects of a virtual team have shifted values in traditional teams in organic organizations. The existence of virtual team become part of trends in today's business world, virtual team refers to teamwork that the members of team stay in different places but connected by technology[1][2]. Current digital environment made possibility to virtual teams to growth and become more popular than before.

The existence of virtual team not totally new, virtual team already uses by VeriFone in 1981. This credit card detail reader, employs 3,000 people in different locations and has used a virtual team as a strategy [3][2]. By utilizing virtual teams, companies can obtain skilled workforce and special

talents without being limited by a region or geography. It is increasingly apparent that virtual teams are increasingly becoming a necessity for companies, supported by the fact that almost two-thirds of organizations in the United States utilize virtual teams to realize their business strategies[4]. Workers do not need to move from their homes to a new location, because they can do their work, communicate, interact with each other in a virtual container referred to as "virtual space"[3].

This geographically separated virtual team allows companies to get skilled workers without being limited by physical presence or geographical location. Companies can employ skilled workers from various parts of the world, without requiring additional costs for relocation. Virtual teams also have efficiency in terms of time, where a job can be done anytime and anywhere. This reduces workplace costs, increases productivity, as a new way to improve customer service, better access in global markets and favorable environments[2][5]. in fact, this virtual team is becoming increasingly important in a business organization to improve company work efficiency[1] [6][7][8]. the rapid development of virtual teams through the facts outlined above, the authors are interested in studying more about virtual teams. Based on the idea that this virtual team is in fact different from traditional teams, the authors assume that there are differences that need to be considered in team management. This gave rise to new challenges. Teams, conventionally, are people who work together to do their work face-to-face, communicate verbally and directly, while virtual teams do their collaboration through communication technology devices with very little face-to-face intensity, even without any face to face. The degree of virtually of virtual team is the fundamental point, which needs to be studied more deeply. This study uses a literature review study to understand the understanding and things that distinguish between virtual teams and traditional teams and the existence of virtual teams today.

II. LITERATUR REVIEW

A. General Description of The Team

Conceptually, a team is the simplest form of organization, the forerunner of a more complex organization. Like organizations, teams have a vision and goals, and especially the people involved in it, they work together to achieve common goals.

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The team is a collection of several people with certain expertise who have the same commitment to the common goals, functions and work approaches, which are mutually beneficial [9][10]. A team generally consists of individuals who work together to do a job that requires multi-skill, thinking, and experience. The team has a tendency to complement each other's skills, have positive synergy and have collective performance goals. Meanwhile, what is meant by cooperation is a process that has goals that come from the desire or need to solve a problem. Collaboration can take place when an individual realizes that he is unable to solve or work on a problem or work alone. This led to the sharing of responsibilities and joint decision making. Team collaboration also consists of several factors such as experts, time, money, and competition among team members. Successful collaboration can be seen based on the results, in other words the team that works effectively will be more innovative, productive, and have more satisfaction than the ineffective ones. To realize a successful collaboration team member must have an open mind, a desire to listen and trust their team members.

Based on the results of research [11] effectiveness is a multidimensional concept that has 3 (three) dimensions, namely performance, attitudinal outcomes, and behavioral outcomes. Effectiveness is categorized in three main dimensions based on team impact:

- (1) Performance effectiveness (productivity, efficiency)
- (2) Attitude outcomes (satisfaction, commitment and trust in management)
- (3) Behavioral outcomes that include absenteeism, turn over, or safety

The three dimensions mentioned above are not always as important and significant for each type of team. The importance of these dimensions depends on the values and activities of the team. It also depends on the dimensions and variables that are the emphasis.

Based on research [11] also note that attitudinal outcomes are a category that is always present in every type of team, but attitudinal outcomes are especially important in measuring the effectiveness of self-managing teams such as virtual teams.

B. Tim Virtual: Definition

Virtual teams are a new form that was born as an impact of advances in communication technology [12]. The existence of virtual teams that is often associated with the era of technological advances is a general tendency that is often expressed by several authors [1][12][13][2][3][14]. The era of technological advances raises new challenges in the business world, namely the demand for flexibility from organizational forms that are also responsive to changes, situations and conditions of the business environment. In this case the virtual team becomes a form that is considered to represent a new form of organization that is flexible and responsive.

The Virtual Team consists of members who are geographically located in more than one location [1], [3], [4], [13], [15], [16], [17][14][18][2]. The point that is often raised by almost all writers regarding the definition of virtual teams is that the physical existence of team members is geographically dispersed. Separation of the location or geographical location of team members is one of the main

characteristics that are often used to define virtual teams [1], [19]. Generally, the researchers emphasize that this virtual team consists of members who are geographically, more than at least one location. Virtual teams are formed in a geographical manner, they work without any geographical or regional boundaries, spread over various regions, crossing national and continental boundaries. States by [1] that a virtual team is a team whose members are geographically dispersed, who are in a place that has a difference of time and state territory.

Virtual teams have a high dependence on communication and information technology [1], [3], [4], [13], [15], [16], [17][14][18][2]. Electronic digital communication technology as the heart of the whole work process [12]. The use of communication and information technology plays an important role in virtual teams, as well as being the main means of interaction for team members. This is in line with the existence of team members who are generally geographically dispersed which causes limited face to face interaction (FTF). FTF meetings are replaced by virtual meeting environments [9] where team members can communicate virtually without geographical and time restrictions. According to [20] virtual teams work in virtual environments that have geographically separated characteristics, have time differences, cultural differences and backgrounds, and use technology as a communication medium. Agree with [20], the research of [12], revealed that many virtual team conversations occur asynchronously (via e-mail), and only occasionally synchronically via tele-conference (via video and audio); thus according to the conclusions by [9], technology collaboration plays an important role in the success of a virtual team.

In addition to its geographically dispersed members and high dependence on communication technology, in many literatures several other criteria from the virtual team are mentioned. These criteria include that virtual teams have a boundaryless organization [1],[4],[9],[12],[14],[21], meaning they can originate and belong to different organizations. In general, members of this virtual team are people who have certain skills (knowledge workers) who are united in a team for a purpose / task.

Besides the same general opinion about the character of the virtual team, some writers have different perspectives, opinions and opinions from other writers. For example [22], view this virtual team not merely as a community or group of people who have the same goal. He views this virtual team more as a socio-technical system. Virtual team defines as a socio-technical system consisting of two or more people who work interactively to achieve a goal of at least 1 of its members in different locations, organizations and different times so that communication and coordination dominated by communication using electronic media (email, fax, telephone, video conference, etc.) [22].

Based on the facts found in the field it was found that there has been a shift in context from the interpretation of the existence of team members [23].

Previously, virtual teams were team whose members were separated by continents, since teams whose members were at least 50 feet apart were called virtual teams. In line with this, the research of [21], regarding the degree of team virtuality, revealed that a team can become a virtual team if there are 3 (three) components, namely:

1. geographical and location differences
2. differences in the organization / parts of the organization
3. time difference

where the more extensive each character is then a team can be considered increasingly virtual. Slightly different from [21] in the research of [12] revealed that to measure the degree of virtuality can be seen from 6 (six) aspects:

1. how geographically dispersed the sub-tims are
2. extent of media-richness of the communication technologies being used
3. frequency of face-to-face meetings
4. extent of diversity in culture
5. share history of working together
6. temporary nature of team

In contrast to other researchers, the research of [3] argue that it is the way team members interact that should define a team as a virtual team rather than the physical location of team members. This opinion is based on the idea that a team can still work virtually even when they are in the same building, floor and room.

Table- II: Name of the Table that justify the values

Characteristic	Reference
Virtual teams consist of members who are physically dispersed geographically	[1]–[4], [10], [12], [14]–[18], [20], [21], [24]
Having a high dependence on communication and information technology to interact	[1]–[4], [10], [12], [14]–[18], [20], [21], [25]
Minimal or no face to face interaction	[3], [9], [12]
Team members consist of experts (knowledge workers)	[9], [12]
Virtual teams are usually not permanent teams	[1], [2]

Based on the various definitions and contexts above, the writer draws a conclusion, which is summarized from the existing understanding that virtual teams-in general-can be defined as a collection of individuals who work together with a particular goal, which consists of expert workforce (expert workforce (expert / knowledge worker), where geographically they are located in different locations / more than one location that may have a time difference, so to be able to communicate and work together use a modern communication technology media device.

C. Differences Between Virtual Teams and Traditional Teams

The use of the term traditional teams to refer to non-virtual teams or teams that interact face to face is different in several papers. Refer to [13] these non-virtual teams as collocated teams, while in the paper [3] refer to these teams as conventional teams. The term traditional teams to refer to non-virtual teams. Based on the author's study of existing research [3], [13] the difference in mention is just a difference in terms used by the authors of the papers that mentioned above. Basically, what is meant by traditional teams, collocated teams and conventional teams refer to the same form of team. In this paper, the authors further agree to use the term traditional team to refer to non-virtual teams. The author assumes that the use of the term traditional team will be more familiar and easier to understand.

The general trend that occurs when people talk about virtual teams and traditional teams, they tend to prefer to have the view that these virtual and traditional teams differ significantly. For example [10], states that these virtual and traditional teams differ significantly. Their argument is based on the view that this traditional team works side by side or close together, in the same building, while virtual teams work by being in several different locations. The differences that are generally seen (in addition to the physical presence of team members) namely in traditional team coordination the tasks are carried out directly by team members together. In contrast, virtual teams must be better structured. In addition, virtual teams rely on electronic communication, whereas traditional teams communicate face to face (FTF).

Basically, virtual teams and traditional teams have something in common. Some writers such as [4], [12] express similar opinions about the similarity of structure and practice in both teams. Some organizational components that exist in traditional structures are transformed into virtual structures and many of the best practices in traditional teams are similar to those applied in virtual teams. Everything that is done in traditional teams is also done in virtual teams, such as sharing information, making decisions (decision making), and completing all work tasks (complete tasks). Thus according to the authors, it can be said that the basic aspects of traditional teams also exist in virtual teams, the difference lies in the adaptation to the virtual work model.

Virtual teams are born from the need for teams that are able to adapt to virtual work. The need to adapt to this virtual work model certainly makes the virtual team have a pattern, rhythm of work and structure that is different from traditional teams. Traditional teams tend to reflect the hierarchical, centralized and formal design inherent in the team in each of its activities; on the contrary the structure of virtual teams tends to be flat, decentralized and informal, where the joining organizations are required to adapt quickly to new processes and other innovations.

The fundamental difference between virtual teams and traditional teams lies in the use of information technology[22]. Traditional teams might use e-mail, cell phones, blackberries, and other devices to support their communication. This is not classified in the scope of the work of virtual teams, because the use of communication technology in traditional teams is only as a complement,

not the main [3]; while in virtual teams, this technology is a condition for ongoing work activities of the team. Thus virtual team members are required to have the ability to understand the communication technology systems used as their liaison media. The virtual team's members will be challenged to adapt to the telecommunications and informational technologies that link its members [26]. In accordance with their significant functions, the ability to use communication technology is a key element that supports their communication and collaboration.

The dependency of virtual teams on technology to interact, control and coordinate this, reducing verbal cues in communication (as is true in FTF communication) [13], this limits socialization activities. It is different from what happens in traditional teams where interactions take place on an FTF basis. Socialization can take place more freely, so this traditional team can give its members a sense of belonging that is more compared to virtual teams [26]. The results of [13] revealed differences in the level of satisfaction between traditional and virtual teams. Traditional team members are more satisfied with their work processes, while virtual teams experience dissatisfaction with work processes. The research results of [22] revealed a similar finding, that there were differences in the level of satisfaction between groups that were communicating using computer mediated communication (CMC) and FTF team groups. This happened because the CMC team needed more time to make a decision than the FTF team. This delay in communication and feedback is due to geographical and time factors as one of the obstacles. The difference in the level of dissatisfaction is when they have to do work with an urgent time limit. The previous research [19] argue that the differences between traditional teams and virtual teams are becoming increasingly biased because there are almost no traditional teams that do not use technology to support their communication, and vice versa virtual teams may hold FTF meetings periodically when handling a task / job. The reality on the ground is difficult to find teams that are purely virtual and teams that are purely traditional. The previous research [20], [27] states that the core difference between virtual teams and traditional teams is at the level / degree of virtually. Based on the opinions of experts regarding several differences and similarities between virtual teams and traditional teams, the authors argue that the core of similarities and differences expressed by a number of papers we have discussed is to help us further understand that virtual teams and traditional teams are two forms different team. This difference can vary depending on the parameters and viewpoints used to compare them.

In general, some differences between virtual teams and traditional teams observed by previous researchers include: the use of technology as a fundamental point [3], [22], [26], Physical presence [26], [27], Organizational structure (Peter and Manz, 2007), level of satisfaction [24] as well as work processes and activities. Without intending to deny these differences, the author, in this case, tries to look at the roots of the team itself, where the author sees this virtual team as a form of "evolution" of the traditional team. The basic aspects of traditional teams are also found in virtual teams. The virtual team has the same pattern as the team in general (There is a process of sharing information, making decisions (decision making), and completing all work tasks (complete task). The difference lies in adaptation to a virtual work model. Can be said to the team virtual was born as a result of

adaptation to the progress and changes in people's lifestyles, a modern society that is interconnected wirelessly, infinite world / virtual world.

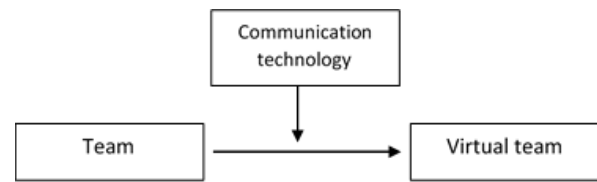


fig1. Virtual Team Existence

D. Challenges in Virtual Team Collaboration

Socialization is an important element that can develop further towards good teamwork. Previous research [13], [24] revealed, in teams that collocated socialization among team members occurred face-to-face (FTF), both inside and outside formal meetings. This reinforces team members' commitment to their organization and work, while virtual teams, rely heavily on technology for coordination and control. This greatly reduces verbal communication cues and makes socialization activities difficult. Of course, we can imagine how communication takes place in a virtual team. In a virtual team the interaction and communication that occur depend heavily on technological systems. Geographical distribution of team members gives rise to dynamic and complex conditions. Distance and technological devices reduce verbal conversation cues significantly. The previous research [29] also find that cultural differences and background factors increasingly add to the complexity of virtual teams, so that, socialization between team members is more difficult than socialization that occurs in teams that are face to face. The research of [1] consider what is critical in virtual team collaboration are: risks associated with team formation, maintaining team and organizational commitment, difficulties in team relationships such as trust, cultural differences, member conflicts, and complex decision making. Slightly different the research of [22], [29] focused more on the trust factor as a significant challenge in virtual teams. Trust is considered a significant challenge, one of which is due to the lack or even the absence of face-to-face interaction. Members of the virtual team almost never meet face to face. They communicate and interact using an electric communication system as the main media of interaction [2], [12], [13]. The virtual aspect of the virtual team raises a high degree of uncertainty. This is because each individual or organization member does not know each other or know each other deeply. It is very open to the possibility that each member carries a pattern of habits, and their diverse native cultural backgrounds in their work [12]. the limitations of communication tools in virtual teams can have a negative effect in supporting the integration of information [22]. Also found [29], [30] that trust is an important element in virtual teams that can be built through interpersonal communication between team members, especially in the early stages of team formation. To achieve success, a virtual team needs to pay attention to several things, including human resource policies, training (in terms of technology use), organizational culture, workforce capabilities, and appropriate technological equipment [26].

These challenges in virtual team are revealed as follows[1]:

- decide on the best technology used to communicate,
- selecting team members (especially for virtual teams whose members come from different countries, across cultures and time zones),
- the ability to build trust and productivity among team members,
- capacity to resolve conflicts within the team and between teams by their management.

III. METHODOLOGY

This research using qualitative research method to collect data from respondents through deep interview. Respondent are selected by purposive sampling method with several consideration such as their engagement in virtual meeting process. Our respondents selected around them who familiar with virtual meeting and used to join in virtual meeting. Several open questions were asked to our respondents to get deep understanding.

IV. RESULT

Our respondents already familiar with virtual meeting in their daily works. Their using virtual meeting for several activity in private institution. The Institution has several offices in several city and region, but they connected each other and do some several project together.

The result show that in term of technology used, our respondents agreed that advanced technology really help them to communicated each other and help them to coordination through virtual team meeting. They are using some communication tools such as WebEx and sometime using mobile application such as WhatsApp and other. All of respondents agreed that quality of internet connection become significant during the meetings. Bad connection will have deep impact in term of understanding each other. In several condition when internet access is limited, they faced such problem such as delay time of sounds, delay expression of meeting partner that influence mood of works because they must speak loudly and repeated, they speak again and again.

In term of engagement (dept of relationship), they realized that it's not easy to build engagement to other members of virtual meeting teams that separated each other, especially if they never meet before. In several condition, they sometimes work with person that they never know before, they have no engagement feeling to their coworker but they responsibility and their work target, made them engaged to the project itself.

In term of trust, we found that in virtual meeting, trust to others (separated teams) hard to build, but they do their best for the project itself because of their own interest as part of their job target. Every worker has work target to achieve that measure through Key Performance Indicator (KPI). They put trust to their own capability to achieved KPI not to their virtual team partner.

In term of commitment, we found that they are commit to their work responsibility. As we mention before, that they have several work targets, that made them commit to their work. This commitment also could see from outcome of every project. In every project, their achieve good outcomes and able to achieve their project goals and objectives.

In term of training for technology itself, our research show that our respondent not really need to train to using communication technology because their really familiar and their just using the tools that already prepare by firm IT division.

V. CONCLUSION

As a form of team, virtual teams are teams that work together by using communication technology tools to unite their geographically dispersed team members in a virtual meeting. Virtual teams are born from technological advances, these teams develop in line with technological advancements. Many researchers emphasize the physical presence of team members and the use of technology as the main characteristic of this team. To be able to define a virtual team is not easy, this is because the use of technology as a means and medium of communication has become increasingly biased. Technology in its development is not only used by virtual teams but also by traditional teams. Based on a review of the literature, the authors define a virtual team as a collection of individuals who work together with a particular goal, which consists of expert workforce (expert / knowledge worker), where geographically they are in different locations / more than one The location may have a time difference, so to be able to communicate and work together use a modern communication technology media device.

The result of our study shows that quality of communication tools really influences the quality of virtual meeting and influence all the aspect of virtual meeting effectiveness. Engagement and trust factor in the virtual meeting hard to build but not become barrier yet, because of the existence of work targets (KPI). The workers trust and commit to their own targets beside to their virtual team members.

Our research also found that training not become significant needs because they quite familiar with the technology and they have IT division to prepare all supporting tools to prepare all tools for virtual meeting needs.

From the result, significant thing that must well prepare to make every virtual meeting effectively is quality of internet connection. Bandwidth of the internet have to fulfil the need of connection.

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