



# SUCCESSFUL VIDEO COMMUNICATION

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## Executive Summary

### The Current Picture

The past twenty years have witnessed seismic changes in the way that organisations have grown. These changes have been driven partly by the growth of global mergers and the rise in opportunities to compete in markets that years ago were inaccessible, and partly by the huge and rapid growth of new communications technologies.

Where businesses once operated with large and centralised workforces, now there is a significant chance that the same organisations will employ mobile and remote workers instead. As global expansion continues, more employees than ever are working within teams that span different countries and different continents. In the near future, many millions of employees across the globe will find that their job role is delivered from ever-changing remote sites.

The recent steep rises in the cost of oil, together with a growing desire to reduce CO2 emissions, have also started to impact on business travel. Recently, the World Travel and Tourism Council (WTTC) estimated that businesses across the United States can typically spend up to \$180 billion on annual travel. With these increases in costs, added to the impact of the recent global banking crisis, many businesses will be turning to alternative solutions to enable them to reduce their costs and enhance their 'green' credentials.

### Remote Connections

A critical question, therefore, is what are the viable alternatives for businesses who want to cut costs, reduce travel and develop stronger mobile and remote work teams?

Over the past few years, the choice of communication solutions has grown considerably. The recent wave of interest in video conferencing technology suggests a move away from the traditional models for doing business. The emergence of telepresence and enhanced video conferencing solutions are still relatively new, but could offer significant alternative options to organisations seeking to answer many of these issues and reduce their annual outlay.

In previous research studies into global team development, several factors have been isolated as being critical to the success of remote teams. Among these, developing trust across the team was seen as an essential element of effective team functioning. The most direct and effective route for many team leaders to establish trust within their teams was to find ways of enhancing face-to-face communications.

Remote and mobile workers benefit hugely from being able to interact in a way that models face-to-face communication. A landmark study on rapport by Albert Mehrabian measured the impact of voice tone and body language on perceptions of the trustworthiness of other people. He found that:

- 53% of the impression made on another person derives from behaviour and body language.
- 40% of the impression made derives from who people are - through credibility and personality.
- 7% of the impression made derives from the spoken words.

If only 7% of the impression that people make is from their spoken words, then audio communication solutions are clearly limited in enabling us to build the rapport that we need to communicate effectively.

While the use of video in communications can enhance meetings, anecdotal evidence equally suggests that usage rates are still relatively low. There have been relatively few clear research investigations into the way that remote working might be enhanced by video communications, and yet the recent advent of telepresence systems, which offer high quality, life-like meeting experiences, has already improved usage rates to between 40 to 60 percent\* and could, in principle, revolutionise remote communications.

This report explores video communications from a psychological perspective in order to understand how such technology - from video phones, web-based video conferencing and dedicated video conferencing systems, to the top-of-the-range telepresence systems - might

deliver significant benefits to organisations. The report examines individual differences in approach to video communications, the influence that group processes can have during communication, and the impact of specific factors relating to age and culture.

It draws on a wide range of sources, including established research in the field of psychology and communications; a series of live observations of video communication enabled meetings; one-to-one interviews with global team leaders; and questionnaires exploring the mind-set and behaviour of remote team members.

The report reveals a number of surprising facts about what it takes to be successful in video communications and how organisations can maximise the value they get from using video communication technology.

### Report Highlights

- Observations of remote team meetings suggest that using video communications significantly helps team members and the team leader to establish stronger relational bonds.
- Through analysis of team behaviours, we identify a range of personality preferences - including extraversion, openness and anxiety - that have a significant impact on the overall quality of remote team communication. These preferences can all be enhanced and positively capitalised upon in video-enabled meetings.
- Cultural intelligence is of considerable importance in successful international video communication. Cultures differ considerably in values and attitudes towards working practices. Video communication technologies can raise awareness of different cultural communication patterns, which in turn can significantly enhance effective communication processes for global teams.
- Interviews with team members following remote meetings revealed that the use of video positively affects a number of core team processes. These included having stronger levels of engagement in group discussions; more open expression of thoughts and opinions; and the ability to resolve disagreements more quickly. A high level of respondees concluded that visual cues provide important signals that support effective team working processes.
- Despite the many stereotypes that exist of generations lost in technology, there are few, if any, generational differences in the use of video communications. Our interviews and questionnaires revealed that mindset, not age, is the critical factor.
- Some users reported feelings of anxiety and exposure during video communication. Through interviews and observations, we identified that feelings of apprehension can typically result in heightened self-awareness when using video technology, and this stems from a lack of familiarity or awareness in using the technology solutions effectively. Importantly, the research found that the technology only became a barrier for people who were not adequately trained or supported in its use.
- A number of best practice recommendations emerged from our observations of meetings, for team leaders and organisations. These include how to heighten inclusivity in teams, maintain the flow of communication and strengthen cross-cultural team working.

The report concludes with unique Video Communication Guidelines for the individual, team leaders and organisations. This provides highly practical advice for ensuring that video-enabled meetings are as productive as their face-to-face counterparts. In addition, following the guidelines will ensure that people feel as comfortable as possible when using video communication which is likely to help businesses reap the benefits of their investment in this transformational technology.

\* based on Cisco internal usage of TelePresence meeting systems, average 47% utilisation over 2 years, Oct 2006 – Oct 2008

## Research Overview

In the ever-growing climate of global and remote team communications, the significant question arises as to how people develop the familiarity, confidence and comfort to use video communication regularly, and the factors that allow those users to reap the full benefits of this leading edge communication style.

This report was commissioned by Cisco Systems from business psychologists Pearn Kandola in order to develop a clear understanding of the psychology that lies behind the use of video communication technology.

The report includes a rigorous review of the psychological literature and detailed observations of live virtual meetings. It focuses on the range of attitudes, behaviours and feelings necessary for successful video communication and captures the actions people take to ensure the success of their video enabled communications.

### Remote Connections

This research programme was conducted in two stages. The first stage of research was a detailed and rigorous literature review. This was conducted using a number of key academic journals. This review gathered a number of specific facts, but also established that video communication is, in general, an under-researched area.

Further research examined existing psychological theories of communication, interaction and group processes to understand the problems that might be encountered in a video communication setting.

Using the data gathered during this initial literature review, a list of the likely behaviours, attitudes and feelings that people need in order to use video communication technology successfully was developed. These guidelines cover three core elements: the individual, the team and the organisation, and highlight needs within each.

The second stage of research involved observing a number of video communication enabled meetings in an organisational setting. Following these observations, one-to-one interviews were carried out with a number of selected people present at these meetings. In addition, an online questionnaire was distributed to all meeting attendees. The observations, interviews and questionnaire all explored the behaviours, attitudes, and feelings that contribute to success and failure in video conferencing. This provided valuable case study data to validate and shape the initial phase of research.

### Report Structure

This report combines the literature review with the results of all of the interviews, questionnaires and observations.

- Section One addresses the psychological factors that affect communication style and how these impact on video communication.
- Section Two addresses the broader issues around video communication, including cultural differences and age.
- Section Three explores the practical implications of the research and provides an index of successful video communication and organisational implications of this research.

The report contains information based on perceptions which, while they may or may not be held to be scientifically accurate, represent reality for the participants who hold them.

Finally, the interviews were conducted on the basis of strict confidentiality. Names of participants have, therefore, been removed from the material presented here. Details of gender and roles were also removed where such information could lead to identification of the individuals concerned.

## PART ONE

# THE CASE FOR VIDEO COMMUNICATION

## Introduction

This phase of the research project investigated how video communication technology might influence the communication processes in remote meetings. A number of live meetings, using a range of different technologies, were observed by researchers. In doing so, the researchers captured a number of specific actions and behaviours that contributed to the overall quality of communication.

These observations were closely followed by interviews and/or questionnaires, examining the attitudes of team members during the meetings.

The main elements of communication in meetings were identified and the impact of these processes examined in relation to the overall success of the meeting. In the course of this phase of the research, we also examined the impact of personality, culture and social processes on communication in remote teams.

## Effective Meetings

Group performance can be affected by a wide range of factors, including the knowledge, skills and abilities of each of the group members, their personalities and their motivations, and the many organisational factors such as resources and information availability.

These factors all combine to affect group processes, such as leadership style, participation and information exchange. In turn, these can significantly affect the quality and speed of outputs of the meeting, including overall productivity, innovation, satisfaction and group viability.

Based on a range of research studies into effective group processes we have condensed and clustered a range of essential psychological elements – behaviours, attitudes and values - that will contribute to the effectiveness of any group meeting. Once these clusters had been established, we then considered the impact of video communications on each.

- A relaxed, informal atmosphere with a structured framework, in which all meeting participants feel consistently engaged and interested in the core content of the meeting. Even issues that fall outside of an individual's immediate sphere of responsibility are discussed in an engaging and meaningful way by all members of the group. This can be enhanced by the visual information made available by video communication.
- Group members contribute to discussions that are pertinent to the subject. As the discussion drifts, as it inevitably will, members will quickly and effectively be brought back to focus on the subject.
- The task or objective for the meeting is communicated clearly by the group leader, and shared, understood and agreed by all group members.
- Members of the group explore and consider all suggested ideas and seek to build on each idea where relevant.
- Individuals must not feel inhibited, in order that disagreements and concerns can be openly promoted. Video communication can both help and hinder this. This research found that people seeing their own image on the screen during web conferencing can increase anxiety and inhibitions. Using systems such as telepresence which model face-to-face interaction can, however, decrease inhibition.
- The group is comfortable with disagreement and handles a range of different viewpoints in a considered and reasoned way, and without dominating dissenters. It is easier for extraverted team members to dominate conversations during audio communication, but less easy during video communication because of the extra cues available.
- Decisions are made once all members are in general agreement, or the team leader identifies a clear path forward that reflects the need of the team and organisation.
- Criticism is frequent and constructive, without descending into personal attack.
- People freely express their thoughts and opinions - there should be no hidden agendas. It is easier for people to express thoughts and opinions during video communication when compared to audio communication. This is because conversational flow is easier when visual cues are available.
- Clear actions are assigned to individuals.
- The leader of the group does not dominate proceedings and is happy to pass over leadership if moving into an area where someone else has greater expertise.
- The group will be self-aware and evaluate its operations and functioning. It will make improvements to processes as and when necessary.

The higher the prevalence of such behaviours and values, the more successful a meeting is likely to be. The single greatest challenge for remote, virtual communication has always been that group members are starved of high quality visual information that they would otherwise have access to in a typical face-to-face setting.

The following sections look at how important visual information is for effective communication and the value that video communication can bring to meetings.

## The Business Case for Video Communication

Previous research conducted by Pearn Kandola on behalf of Cisco Systems has found that face-to-face communication is the most preferable way to conduct meetings. This is based on a number of findings, including the fact that non-verbal cues significantly increase trust between team members and will enable trust to be built more quickly. Face-to-face communication also enables stronger interpersonal bonds to be created and a sense of shared identity.

“We are organising web meetings with customers - a month ago we used to have customers coming to the office and they would lose their whole morning for a two hour meeting. Now, we have 100 customers instead of 30 as it is easier for them to dedicate just two hours, not the whole morning.”

As already outlined, most information that we use to communicate with others does not come from words alone. Eye contact, facial expression and posture are all critical examples of the type of cues available during face-to-face interaction. Each provides vital information about our colleagues.

It is possible, for example, to discern organisational status of a colleague in a meeting, on the basis of the physical cues they present (e.g. posture), or to infer the underlying mood and intention behind what they say (e.g. frustration, anger, happiness), or to gauge how their message is being received by other meeting attendees (e.g. whether people are actively engaged or disengaged).

Groups that are spatially separated and who can only communicate using audio communication will miss out on a significant proportion of these vital cues. In addition, greater flexibility, autonomy and productivity are all by products of mobile and virtual working so it makes perfect sense for organisations to adopt this way of operating.

“If I use the time saved for myself I am going to be a happier employee. If I use it for work I’m going to be a more productive employee.”

The question becomes, therefore, how can we maximise communication between virtual teams who consist of people in multiple locations? Video communication provides an attractive solution, given that it provides the visual cues that are lacking in other computer mediated communication forms.

“The money that I’m saving on planes is huge. From a company perspective that is the biggest part. It is like working one less day a week.”

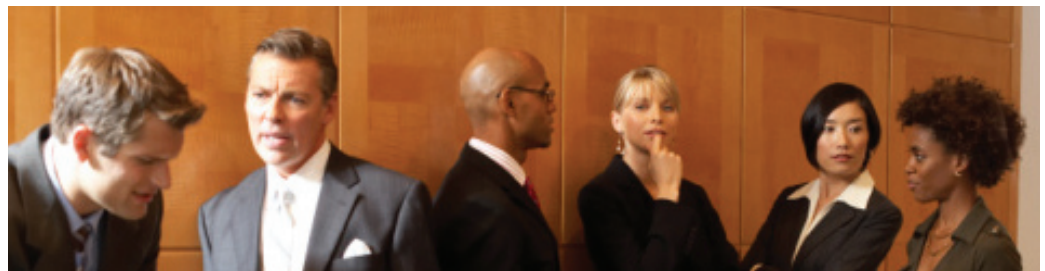
Video communication allows meetings to be more efficient and focussed as misunderstandings and misinterpretations are reduced when compared to other forms of communication that do not so closely replicate

face-to-face interaction. A number of the people we interviewed commented on how it enables stronger relationships to be built therefore enabling greater confidence in decision making through visual agreement, greater empathy and an increased feeling of shared commitments. Interviewees also commented on how efficient video communication enabled their meetings to be.

## Personality Differences in Communication

Individuals differ in a vast array of physical characteristics, visible behaviours, underlying values and motivations. Underpinning many of the behaviours that we see in colleagues are small, yet critical clusters of personality characteristics or traits. Social interaction, rapport, confidence and decisiveness are just a few of the vast number of visible behaviours that have been shaped by personality traits. These traits can have a strong influence on communication, as they can govern the way that individuals interact, develop rapport, make decisions, create new ideas, to name but a few.

In the course of our research and drawing on our experience of previous psychological sources on teams we have been able to pin-point six particular personality types that will be seen in meetings and that most people will instantly recognise. These personalities reflect the typical contributions that people often make in work meetings and which shape the behaviour of teams more broadly.



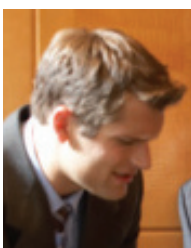
### The Leader/Dominator

The Leader/Dominator is typically the person who leads and manages the meeting. At best, they have authority and presence and can command the respect of their colleagues. They communicate well with team members, playing to the strengths of everyone present and getting the best out of people through adopting a facilitative style.

At worst, they tend to dominate meetings, demanding contributions from people rather than facilitating open discussion. They can become rigid about decision making and are likely to believe that their way is the right way.

#### Personality Profile of a Leader/Dominator:

Extravert +	Likely to be vociferous, engaging and explicit in communication.
Conscientious +	Likely to have strong self-discipline and a desire to do the best job possible.
Anxiety -	Is unlikely to suffer from feelings of anxiety and stress. Appears calm in a crisis.
Agreeable -	Is unlikely to be overly concerned with building rapport. Has little interest in whether people like them or not.



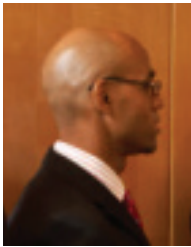
### The Energiser/Distracter

The Energiser/Distracter is characterised by sporadic bursts of engaged interaction with the meeting, interspersed with long periods of distraction. Such distractions include emailing, BlackBerry use and doodling.

When energised, they will be productive, creative and insightful. This is likely to be coupled with high energy and engagement. However, their attention span is short and they are likely to return to distraction activities fairly quickly.

**Personality profile of an Energiser/Distracter:**

Extravert +	Likely to be vociferous, engaging and explicit in communication.
Conscientious -	Likely to be disorganized and unprepared for meetings. Is more able to cope with unpredictable situations.
Anxiety +	Is likely to get their drive and enthusiasm by channelling nervous tension.
Agreeable -	Is unlikely to be overly concerned with building rapport. Has little interest in whether people like them or not.
Openness +	Is likely to be intellectually curious, creative and unconventional in their approach.



**The Thinker/Shrinker**

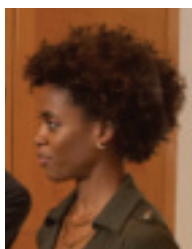
The Thinker/Shrinker is the quiet genius of the group. Inward looking, they often seem reticent to speak and can give the impression of being disengaged. Their appearance is deceptive, however, and although they are calm and quiet on the surface, there is often a hive of intellectual activity going on underneath.

At best they will give deep thought to the issues at hand giving a useful additional perspective to proceedings.

At worst, however, they will wait until actions have been agreed before pointing out the errors in the initial ideas.

**Personality profile of a Thinker/Shrinker:**

Extravert -	Likely to be quiet, intense and inward looking. Can appear to be shy and/or disengaged at times.
Anxiety +	Is likely to suffer from feelings of anxiety and stress. Can become more reticent as anxiety levels increase.
Agreeable -	Is unlikely to be overly concerned with building rapport. Has little interest in whether people like them or not.
Openness +	Is likely to be intellectually curious and creative in the solutions that they offer.



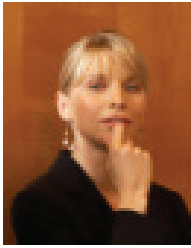
**The Friendly/Talkalot**

The Friendly/Talkalot is outgoing, sociable and is likely to have something to say about all topics. This approach can be very useful for creating a positive atmosphere within the team and can help the initial relationship building activity needed for the formation of a new team. At best, Friendly/Talkalots can provide energy and insight to the team, as they are forthright and genuine, and will not leave anything unsaid.

At worst, however, they fail to listen to what is being said in the meeting and, as a consequence, are often responsible for the agenda drifting. They are likely to be characterised by a tendency to talk over others.

**Personality profile of a Friendly/Talkalot:**

Extravert +	Very extraverted and rarely leave things unsaid. Run the risk of being verbose and talking for the sake of filling perceived silences.
Anxiety +	Can suffer from feelings of anxiety and stress. Becomes more talkative as anxiety increases. Quality of discussion is also likely to decrease.
Agreeable +	Very concerned with building rapport. Can become overly concerned that people should like them.
Conscientious -	Likely to be disorganized and unfocussed on end goals. Is unlikely to be particularly focused in discussions.



### The Creative/Impractical

The Creative/Impractical is the ideas generator of the group. Characterised by a wealth of often creative and boundary pushing ideas which will, at best, energise the group and open up previously unconsidered possibilities. They are very intuitive in their thinking style which means they often go with their gut instincts.

However, unchecked, the Creative/Impractical could produce ideas that lack practicality and are detached from what is realistically possible. They are unlikely to listen to logical arguments and can flit from one idea to another, without ever considering how these ideas are going to be implemented.

#### Personality profile of a Creative/Impractical:

Extravert +	Likely to be extraverted and talkative. This means that they will not leave their ideas unsaid.
Anxiety +	Is likely to feel a certain level of nervous tension which drives them to consider many different and fantastical solutions to perceived problems.
Independent Minded +	Is not concerned with conformity or with being part of the group. Prefers to consider their own thoughts and agenda.
Conscientious -	Likely to be disorganized and unfocussed on end goals. Is unlikely to be particularly focused on outcomes, preferring the creativity of idea production rather than the perceived monotony of implementation.



### The Grounded/Obstructive

The Grounded/Obstructive is the person in the team who remains stubbornly rooted in reality. They describe themselves as being 'down to earth' and pragmatic.

At best will be the people who make things happen, turning ideas into reality and blocking any unrealistic propositions.

At worst, however, the Grounded/Obstructive can become rigid and inflexible in their thinking. They are likely to be slow to change and will not be open to any new ideas. They have the potential to be quiet yet stubborn when dealing with conflict, and often make their opinions about new suggestions known, but without being overt about it.

#### Personality profile of the Grounded/Obstructive:

Extravert -	Likely to be fairly introverted. Will not be focussed on idea generation and discussion of new ways of doing things, but far more likely to be involved in the steady and 'under the radar' implementation of actions.
Agreeable -	Is unlikely to be concerned with whether people like them or not. Will be unconcerned with offending people.
Anxiety +	Is likely to feel anxious when they feel that people are creating change for change's sake.
Conscientious +	They are likely to have high standards and be concerned about meticulous delivery. This may make them appear unforgiving of those who have a different work styles.

## How can video communication capitalise on personality differences?

Personality Type	Audio Communication	Video Communication
Leader/Dominator	In the absence of any visual information Leader/Dominators are more likely to attempt to dominate the conversation rather than to facilitate. It is easier to over-direct the conversation when it is not possible to access information about the level of engagement in the team. Silences, for example, can be easily misinterpreted as disengagement, when instead they may represent strong engagement and deep thinking.	The visual information provided by video communication will ensure that Leader/Dominators are fully able to understand and be alert to the dynamics of their team. They will be better able to facilitate discussions using body language cues and are more likely to recognise when to draw colleagues into the discussion.
Energiser/Distracter	The Energiser/Distracter will find audio only meetings a challenge. Their natural inclination to lose interest in proceedings will be maximised as it will be more difficult for them to engage with people without being able to see them. It will also be more difficult for them to re-introduce themselves to the conversation after a period of disengagement.	Using video communications will increase the level of engagement seen from Energiser/Distracters. The richer medium will provide them with a more stimulating environment which will keep their attention for longer.
Thinker/Shrinker	The Thinker/Shrinker's natural inclination to take a back seat in proceedings will be exacerbated by using audio only communication. If your voice is the only cue people have to measure your involvement in a meeting then silence is likely to lead to, at worst, people forgetting you are even in the meeting.	Using video communication will enable people to have visual information about the level of engagement of the Thinker/Shrinker. The key being that they are not disengaged, they are just keeping their thoughts internalised until they feel they have a really important point to make. They need to spend a greater amount of time thinking things through than others.
Friendly/Talkalot	The Friendly/Talkalot is more likely to become verbose and drift off agenda during audio only communication. There are two main reasons for this; firstly, there are more likely to be periods of silence during audio communication, as conversational flow can be stilted; secondly, the Friendly/Talkalot is less likely to pick up on cues from others that the agenda needs to move on.	Using video communication will give Friendly/Talkalots the cues they need to realise that they don't need to fill any silences that occur. Others are also going to be able to control their agenda drifting by using conversational flow cues.
Creative/Impractical	During an audio call, Creative/Impractical people run the risk of either remaining unchecked in their idea creation or being shut down by a Leader/Dominator.	During video communication, Creative/Impractical types are more likely to produce realistic ideas because they are able to have better quality interactions with the people around them. For example, they are more likely to be checked by a Grounded/ Obstructive person.
Grounded/Obstructive	During an audio call, a Grounded/Obstructive person may not be able to make their voice heard as much as they need to. They play a vital role in the team ensuring that any plans made are realistic and practical. Given their introverted nature their input may be lost and when they do interject it may become more obstructive given any frustration they may feel at not being able to get their voice heard.	During video communication Grounded/Obstructive people are more likely to be able to effectively control the untamed ideas of the Creative/Impractical.

## Cultural differences in communication

Video communications successfully help to make the business world a smaller place. It is now as simple to communicate virtually with someone in Japan as it is with someone in the office next door. With video communications there is a greater level of visual interaction than ever before. In doing so, video communication brings to the forefront the issue of culture and its effects on communication interactions.



- People from the USA tend to be fairly informal and use their friendly approach to build relationships through trust. Our previous research on virtual teams highlighted the importance of trust in virtual communication. Video communication is beneficial in helping to build trust through non-verbal behaviours such as eye contact and positive body language.

Being open and frank about what they are offering and what they want from you is also characteristic of the style of the USA. Video communication enables the sincerity of this to be felt more than if audio-only communication is used. Again, eye contact can be key to this process as well as other aspects of body language that indicate openness and honesty.

- Germany is characterised by having a low power distance. This means that regardless of formal positions, colleagues of differing hierarchical status are likely to relate to each other more or less as equals. Germans may, therefore, find it quite difficult to interact with people from a culture where the hierarchy is more rigid such as the Middle East. Using only audio communication will present problems in this situation as it will be difficult for each side to understand the implicit cultural rules around seniority that the other are applying. Using video communication will ensure that non-verbal signs of deference and respect are obvious to all concerned and will aid the interpretation of the situation by both sides.

Other 'low power distance' cultures include:

Australia

Austria

Denmark

Ireland

Sweden

- In the Middle East, integrity is key to relationships. In audio communication it is difficult to ascertain the integrity of the person you are speaking with because you are denied most of the information that we use to establish if we think someone is honest or truthful. Video communication allows us to use the information that can be gathered from seeing someone's image and enables relationships to be built more quickly and more effectively. This will allow people from Middle Eastern cultures to be able to judge the integrity of the people they are meeting faster than just if they were using audio communication alone.

Arabic countries are considered to be 'high context' cultures. People from 'high context' cultures tend to let people know their opinions, thoughts and feelings about a range of subjects as a matter of course. This means that when it comes to meetings their colleagues are much more likely to know how they will react. This creates problems for virtual teams operating in a high context environment as they miss out on the social exchanges that occur outside of meetings that provide the information they need about people. Video communication is desirable in this situation, as it provides people with additional, non-verbal cues about how people are feeling about the topics under discussion.

Other high context cultures include:

China

France

Greece

Japan

Spain

- Japan can be said to be a 'web society'. This means that the Japanese are brought up to be a great deal more interdependent than other cultures and being part of a group can be quite important to Japanese people. Video communication, as already mentioned in this report, has been found by our research to be a powerful tool to increase bonding in teams and to increase a sense of belonging. This will help to give Japanese teams the sense of interdependence and relying on others that they need.

Other 'web societies' can be found in:

China

India

Italy

Spain

## Generational differences in communication

### Age Differences Don't Exist; Self-Belief is the Key

Today's society can be described as being in the midst of four generations. Those born between 1943 and 1960 make up the Baby Boomer generation. Those of Generation X were born between 1961 and 1981, while Generation Y between 1982 and 2001 and Generation Z after 2001.

Baby Boomer		Generation X		Generation Y		Generation Z
1940s	1950s	1960s	1970s	1980s	1990s	2000s
		Email created	First commercial mobile phone service	Birth of the Internet. Personal Digital Assistants (PDAs) created. Internet based video communication technology introduced	Internet based video communication technology introduced	Social networking applications proliferate. YouTube video sharing site launched.

Each generation has approached technology quite differently. Generation Y have been engaged with technology from birth and started conversing using communication technology from a very early age. This generation view technology communication as both a way of socialising, for example, through Facebook and Bebo, and as a key tool at work.

As can be seen from the above illustration, there are certain generations that we would expect to be more comfortable when using certain technologies. Such generational stereotypes typically paint a picture of older people as technologically anxious and/or reluctant to try out new approaches.

"I don't know if there is an age group that would be more successful. I think that older people may be wary of it, but once they have tried it, no problems."

Contrary to this stereotype, however, research shows that this is not necessarily the case. Although some studies of age and technology suggest that older adults may be deterred from using communication technology through feelings of lack of control, dehumanisation and anxiety, there are considerable national differences in the degree to which older adults use the internet for social and work purposes. People in the 50-60 year old age group, it seems, do not fit this stereotype.

Previous research does not point towards a direct link between age and technology use and our research supports this view. Instead, it seems that the beliefs that people have about technology are what is important in determining how they act. The Technology Acceptance model states that people, regardless of age, will use technology if they have positive beliefs about the ease of use and usefulness of technology. People will be more likely to use technology if they feel they have the necessary competency and a sense of control over its application.

### Implications

- Older workers may be open to using video telephony if they have prior exposure to similar technology and are given time to become familiar with its usage.
- In videoconferences where team members have varying experience of using the technology, those with less experience may benefit from clear explanation of processes, rules and etiquette.
- The anxiety of employees, particularly older employees, could be reduced by providing training that increases their skill levels and sense of control in using the technology.

## PART TWO

# THE PSYCHOLOGICAL IMPACT OF COMMUNICATION

## Introduction

This section looks at how video communication affects meetings in practice. Using the data from the observations and interviews that were conducted we have analysed the advantages and benefits that video communication can bring to meetings. Creativity, debate and discussion, building relationships, conflict, and decision making are all addressed in this context.

The potential barriers to using video communication successfully have also been considered, including group and individual influences such as group identity and anxiety.

## Enhancing group processes

This section looks at the benefits of using video communication to the group processes within teams. Video communication can enhance several elements of meetings and bring benefits over and above audio communication.

### Creativity

Diversity in teams is a critical factor in creativity. The more different opinions and different perspectives there are in a team the better the team will be at coming up with new and innovative ideas. Video communication aids creativity as it enables people from different national cultures to meet easily and flexibly on a regular basis.

“It’s really good to see team members who I haven’t seen for a while on Video Communication. I miss them when I don’t see them.”

Our research showed that video communication also enables teams to bond more effectively which is beneficial to creativity. People need to feel that they are in a safe and positive environment in order to feel free to express their creative ideas. One of the most important things to remember about creativity is that most ideas won’t be realistic but it is important to share them in a non-judgemental setting as they often lead to the most productive idea. Audio communication can lead to a disruptive level of self-consciousness which stunts the flow of ideas.

A number of respondents in the interviews we conducted indicated that video communication encouraged openness and increased participation in meetings, this facilitates the exchange of ideas which is vital for creativity.

### Debate and Discussion

Body language and non-verbal behaviour accounts for 63% of communication . This is one of the reasons that video communication provides such advantages over audio communication. It is important to understand, therefore, which aspects of body language are going to maximise our ability to discuss and debate issues effectively. In particular we need to focus on how to ensure that conversations are as natural and flowing as possible.

“I am absolutely sure your message gets through sooner and clearer. If you underline what you are saying with gestures it is more efficient and you get the point sooner.”

Positive body language plays an important part in building rapport in teams. Intuitive and often subconscious reading of other people’s body language enables people to have natural, ‘flowing’ conversations. When these cues are not being picked up there will be a negative impact on the natural continuity of a conversation. The degree to which different non-verbal cues can be seen will vary for different types of video technology. The use of webcams with web-based conferencing applications will limit viewing of nuanced expressions and movement

because the image is generally limited to the head and shoulders, whereas other more sophisticated technology, such as telepresence, can give a clear life-size picture with more visibility of the full body and the ability to make eye contact.

Some cues, such as hand gestures, will be easily accessible in a face-to-face and a video-enabled conferencing environment. However, behaviours such as altering patterns of gaze and taking a breath prior to speaking may not be as accessible in a video communication environment due to limitations of both audio and visual interfaces. Eye contact is one of the most difficult effects to replicate with video communication technology. It is, therefore, important to ensure that the camera used is positioned in a way that optimises eye contact.

In terms of the research findings, a number of interviewees commented on the ability of video communication to increase openness and to simulate the attitudes and mindsets of a face-to-face meeting. This will enable people to debate and discuss in as natural a way as possible.

### Building Relationships

Cohesive groups interact more, have faster decision making processes, are more satisfied with their group membership and can outperform less cohesive groups . The level of cohesiveness that can be achieved by a virtual team that interact using audio equipment is likely to be lower than teams who are able to interact face-to-face. The information available during a face-to-

“Video Communication is most useful for meetings where people are geographically dispersed, e.g. John is relatively new to telepresence sessions. After the first session he emailed to say how great it was to see people – it brought him closer to them. Relationships are brought closer by visual connections.”

face interaction allows cohesion to develop within groups by forming strong relationships between group members. Virtual teams who communicate using audio only are much more likely to feel anonymous and de-individuated and less likely to feel strong membership and affiliation to their group as they receive weaker social cues and less personalising information.

There is a positive relationship between cohesiveness and performance. The more cohesive the group, the better the performance. This is primarily due to the increased levels of commitment displayed by cohesive groups .

Virtual teams using video to communicate are more likely to tap into the same information as face-to-face communication, building stronger relational bonds

and increasing cohesiveness and therefore productivity. Tasks which will maximise this effect will be social tasks and those that emphasise relationships .

Our research found that video communication enabled more cohesive and bonded relationships to be formed amongst teams than audio communication alone. People commented on the positive emotions and attitudes created by being able to see their team members on video screens. It enabled teams to be brought closer together.

### Conflict

Conflict can be both healthy and unhealthy. Unhealthy conflict involves anger and personal attacks which can lead to irretrievable breakdowns in communication. People will often start to take things personally and will respond with slights against others. This consequently causes the team to become less productive.

Audio information is characterised by less social feedback and depersonalised communication which can make people feel less inhibited. Research has found that computer mediated communication causes significantly more instances of uninhibited behaviours such as swearing and general insults. Therefore, providing enriched visual information can serve to increase social feedback and lessen these behaviours.

Clear disagreement may also be an innate factor of computer mediated communication due to the inability to pick up on subtle signs of disagreement such as discreet head movements.

### Decision Making

Decision making is easier to do when we have a lot of information available to us . Video communication technology increases the amount of information that we have available to us both in the sense of added visual cues and the ability to share slides and documents. Our research showed that people felt more comfortable communicating with each other when they could read non-verbal cues, such as gestures and eye contact.

“When you don't see the person and there's a pause you try to understand what the pause is about. If you can see what the person is doing it makes this easier to understand.”

Decision making also relies on someone taking responsibility for the ultimate decision. Audio communication may not always help people to understand who will be taking the lead as non-verbal cues are often used to claim status in a meeting. Research suggests that devices like a firm handshake, unwavering gaze, relaxed but poised posture and an unsmiling but not aggressive expression are used to establish a leadership position.

Given that most of the signals used to claim status in a meeting are non-verbal then this process may be more difficult for leaders who are communicating using audio-only equipment who don't have opportunities for non-verbal rituals such as maintaining eye contact.

Our observations suggest that decision making is a smoother process for those interacting by video communication rather than joining meetings by audio. This appears to be related to the level of conversational flow in video communication being much higher than for audio only.

## Potential barriers to effective communication

### Group Influences

One potential problem that has been observed in video communication is the natural bond that occurs between people who are in the same location. Although this effect is amplified in audio-only communication, this can still be an issue for video communication if there is a large group at one location with smaller groups or individuals joining virtually. It can lead to one particular location becoming the 'master room' and having an unfair weighting in decisions.

Social Identity Theory states that people derive a significant part of their personal identity through membership of organisations and groups. People's social identity provides them with information about how to think, feel and behave when part of a particular group.

Although becoming a cohesive and internally cooperative in-group is advantageous within the group, if an out-group is consistently seen in a negative light, this could have significant implications for the effectiveness of virtual meetings.

Individuals who are anxious, self-conscious, highly group-oriented or have less technological experience, may be concerned about feeling vulnerable and exposed as 'an individual' on the screen. These feelings will be heightened if they are communicating with a group of people who were all in the same location.

This current research shows that inclusive behaviours (for example, using language such as "we" and "us") can help groups to feel more cohesive, as it encourages people to focus on a shared identity. In addition, it is important to focus on rapport building at the beginning of the meeting. This current research showed that humour and banter were often successfully used to ensure that any new members of the group felt included and involved in meetings that used video communications.

### Individual Influences

Research suggests that high levels of anxiety reduce the frequency and quality of group experiences. In addition, adults with high levels of anxiety report feeling awkward, uncomfortable and tense when interacting with people, particularly if they don't know them very well. In any group interaction anxiety has negative consequences for the effectiveness of the group.

A possible reason for this effect, backed by a wide range of psychological research, is that when anxious, people tend to have negative expectations that become self-fulfilled. In effect, when feeling anxious they can be eager to make a good impression, yet question whether they will do so. As a consequence, when interacting with people they suffer subtle side effects such as feeling awkward, uncomfortable and scrutinised. This anxiety can cause them to withdraw, typically becoming quieter in meetings and showing general agreement with others' opinions, yet having low personal involvement. In a video conference situation, people have to work harder to make their presence known to the other members of the group as they are not sharing the same physical space.

This current research shows that confidence is a key element of successful video communication. Being comfortable with personal image and voice, staying relaxed and calm and feeling open and positive were considered to be the most important attributes that someone could possess whilst using video communication.

"Whenever you see yourself for the first time it is weird. You need to see yourself several times to feel comfortable."

It was also found that some of the more common issues around anxiety were feeling exposed and feeling self-conscious. People tend to attend to the images of the other attendees in a more focussed way than they would in a face-to-face meeting which can cause people to feel quite scrutinised and

consequently self-conscious. In addition, with the forms of video communication that involve people seeing themselves on the screen our research found that this had a significant impact on the willingness of people to use such technology. The primary reason being that people felt uncomfortable with having to view their own image.

In order to ensure maximum productivity and comfort it is, therefore, important to address any issues of anxiety with the video communication situation. Allowing people some time to get used to the video communication environment in a relaxed and informal way would be beneficial. If people have some time to 'play' with the technology and learn to feel comfortable with using it and sharing some of their fears with others it will enable them to feel much more relaxed and comfortable in formal meeting situations.

## PART THREE

# GUIDELINES FOR EFFECTIVE VIDEO COMMUNICATION

## Introduction

From our research within organisations and the established research into group processes, we recognise that there are a number of factors that contribute to success during video communication. These factors relate to individuals and their mindsets, how teams are managed through their leaders and how the organisation can create a supportive culture. Knowledge of how communication occurs in 'normal' settings and this current research into what occurs in video communication settings has informed a checklist of behaviours, attitudes and feelings which set out a framework for success.

The guidelines cover what needs to exist or occur at the individual level, the team level, and the organisational level. Individual level analysis helps to inform individuals using video communications of the behaviours that are likely to help them to communicate smoothly and successfully. The team level analysis helps to guide team leaders and meeting chairs as to the best way to run video communication meetings. The organisational level analysis looks at what needs to be done in the organisation as a whole to ensure that video communications are successfully adopted into the culture.

Technology	Types of Meetings	Advantages	Limitations
Video Telephony	Useful for day-to-day communication where relationships have already been established.	No special technical skills required as a video call can be made simply by dialling the other person's extension.	Not all non-verbal cues are available to users (depending on the quality of the webcam or camera phone used).
Web-based Video Conferencing Services	Useful for meetings involving small distributed teams who meet on a regular basis. Also useful for one-to-one meetings with people outside the company, such as customers and partners.	Widely accessible for anyone with a PC, internet connection, webcam and phone. Allows the sharing of documents and applications for real-time collaboration. Meetings can be recorded.	Picture quality is often low as the image size is small and the video quality can be affected if the network connections are not good.
Video Conferencing	Suitable for small group meetings with one or two people per site.	Picture quality is higher than webcam-based systems.	Sound quality may suffer in large meeting rooms as audio is built into the unit.
Telepresence	Useful for maintaining excellent relationships.	Very high video and audio quality, life-size images. Closest to a face-to-face meeting in terms of the overall experience.	Difficult to replicate eye contact in meetings with large groups. Not all participants can be visible in large multi-site meetings.

## Effective video communication for individuals

Recognisably, an individual's mood and feelings when going into a meeting will affect their behaviour and, as a result, their performance. This is the case for any meeting, but particularly the case with video communication. This section illustrates what individuals need to be aware of in order to drive successful video communications.

Things to be aware of...	How to address this
<p>The role of video in relationship and rapport building: 53% of the impression made on another person derives from behaviour and body language.</p>	<p>Understand the advantages and limitations of the different types of video communication technology. On some systems, the camera angle, zoom and set-up can be adjusted to give an optimum view so that your facial and hand gestures are visible to the people you are communicating with. But be aware that the more subtle visual cues may not come across unless you are using telepresence systems.</p>
<p>Your performance in a video meeting will be improved if you feel energised, enthusiastic and at ease.</p>	<p>Adopt a forward looking gaze when using video communication technology. It is also important to refrain from off-line discussions or other activities, such as checking your email, during a meeting. This helps to demonstrate engagement.</p> <p>Anxiety can be reduced by frequent use of the technology. If you are feeling self-conscious, it may also be helpful to only have the images of the other person or persons visible during a video conversation.</p>
<p>Introverts may not find it as easy as extraverts to use video communication.</p>	<p>Introverted individuals need to vocalise their thoughts to ensure that silences and other non-verbal behaviours are not misinterpreted.</p>
<p>Different generations become familiar with different methods of communication.</p>	<p>Age is not a barrier to using video communication technology. Self-belief is key. Comfort levels will increase with frequent use and training.</p>
<p>During a conversation, most turn-taking occurs through a series of almost imperceptible changes in body language.</p>	<p>Where the video quality is not high enough to pick up these subtle gestures, more visible turn-taking indications and processes will help improve conversation flow.</p>

## Effective video communication for team leaders

There are a number of things that a team leader can do to contribute to the success of video communication, in addition to providing support on an individual level. Team Leaders can have an affect on the processes involved in meetings and also on the conversational flow. The following guidelines provide an indication of how this can best be achieved.

Things to be aware of...	How to address this
The role of video in relationship and rapport building: 53% of the impression made on another person derives from behaviour and body language.	<p>Make time during the start of video meetings for rapport building activities (such as social enquiries). This will help put people at ease, ensure that conversations are not stilted and help creative ideas to flourish as people will be more relaxed about making mistakes.</p> <p>Cohesive groups interact more, have faster decision making processes and outperform less cohesive groups.</p>
The way personality types affect the dynamics and outcome of meetings.	<p>Having high quality video will help you to more quickly recognise the personalities in your meeting.</p> <p>Promote the use of video in meetings to improve the quality of interaction and engagement.</p> <p>Identify people who dominate the conversation or do not contribute at all. Invite contributions from quieter members and thank everyone for their contributions. Video communication can exaggerate certain effects that occur naturally due to people's personal style and it is an important part of the leader role to ensure equal airtime.</p>
A majority group in one location can unbalance group dynamics.	<p>Limit the number of people in each location during virtual meetings. High-quality systems such as telepresence can help to reduce the affects of a 'master room' by bringing everyone around a 'virtual' table.</p> <p>Use inclusive language such as 'we' and 'us' to refer to the whole group.</p>
Different cultures have different communication styles.	Cultural briefings will help ensure that misunderstandings do not occur or cultural intelligence training can be incorporated into people's development plans.

## Organisational processes

Support for video communications is also needed on an organisational level and the most vital components are Resources, Training and Culture.

Things to be aware of...	How to address this
Resources	<p>Provide video communications that are of a high quality to maximise the non-verbal communication of the group.</p> <p>Provide meeting guidelines using the individual and team level guidelines above. Ensure that video communication tools are readily available, easily accessible and easy to use.</p>
Training	<p>Ensure that employees are provided with specific training in the effective use of video communication, highlighting the differences in etiquette between face-to-face communication, audio communication and video communication. Also, provide training to ensure that everyone has the necessary basic skills to use video communication effectively.</p>
Culture	<p>Promote inclusive working through a strong sense of organisational identity.</p> <p>Promote video communication use throughout the organisation so it becomes the norm.</p> <p>Ensure that everyone is aware of the cost savings and environmental benefits of using video communication.</p> <p>Create awareness within the organisation of how video communication solutions can enhance communication.</p>

## Glossary



### Video telephony

Using either a dedicated video phone or an Internet protocol (IP) phone connected to a computer and webcam, users can have one-to-one video phone calls.

Attributes: With a good quality webcam, the picture quality can be quite high. No special technical skills required as a video call can be made simply by dialling the other person's extension.



### Web-based video conferencing services

Using an online application with a webcam connected to a computer, small teams can hold meetings where they can share documents and see each other.

Attributes: picture quality is variable dependent on the quality of the webcam. Video image size is small and the video quality can be affected if the network connections are not good.



### Video conferencing

Using dedicated video conferencing equipment incorporating a video screen and integrated camera. Equipment can be fitted in a meeting room or as a portable unit. Can be used for one-to-one, multi-site or group meetings.

Attributes: Picture quality is higher than webcam-based systems. Sound quality may suffer in large meeting rooms as audio is built into the unit.



### Telepresence

Using dedicated rooms fitted with screens, cameras, audio equipment and, in many cases, specially designed furniture to emulate a board room or roundtable setting. Can connect more than 2 locations for meetings between multiple locations.

Attributes: Very high video and audio quality, life-size images. Closest to a face-to-face meeting in terms of the overall experience.

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