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Smart Meetings vs. Face-to-face meetings

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Contents

1   Abstract

Due to the world's ever decreasing natural resources, it is widely argued that all kinds of meetings should slowly become virtual. With loads of people still preferring face-to-face meetings, this report discusses the pros and cons of both, before deciding whichthe better option is. Lastly, it considers a meetings system that would be ideal to implement and use for all future meetings.

2 Introduction

Uncountable meetings take place daily. Ranging from business meetings to casual outings, they are and will be ever-present. Consider business meetings:they take place in conference rooms and hotels and the participants may have to travel to other countries to attend them. However, in recent times, as the world's natural resources are being stretched, with continual increase of pollution and the progress of global warming, it is increasingly being asserted that such exhaustive and regular travelling is stopped and, instead, a digital approach be taken. Why not, instead, adopt smart meetings and save time, resources and much more? However, quite a bit of people argue that face-to-face meetings are extremely important. In this report, we will firstly present a case for face-to-face meetings. Then, we will discuss the advantages of having smart meetings. Lastly, we will suggest and discuss a model system.

3   Main Sections

i.   The case for face-to-face meetings:

Face-to-face meetings are the popular way to conduct meetings at the moment. According to a survey Forbes Insights took in 2009, 84% of the 750 people they interviewed preferred 'in person, face-to-face meetings' to 'technology enabled meetings'. There seem to be a few reasons for this.

Which type of business meetings do you prefer?

- In person, face-to-face meetings
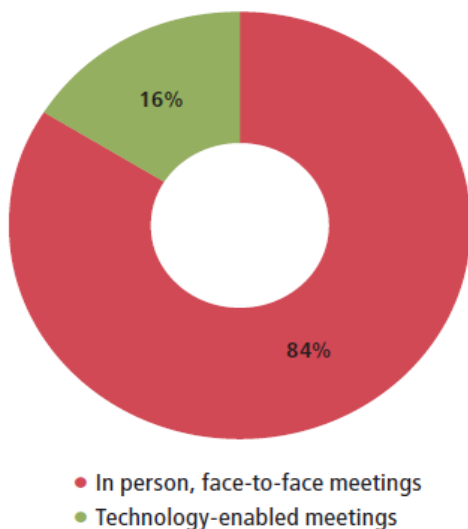- Technology-enabled meetings

Image taken from Forbes | Insights, Business Meetings: The case for Face-to-Face 2009

The first reason for that is that people are normally resistive to change, especially in methods they have applied since the start of meetings themselves. One becomes too used and accustomed to the set way of going about a task and therefore would not be responsive if another, relatively new and extremely different approach is introduced and suggested.

The other reasons are mostly concerned with the psychological aspect of in person meetings. When Forbes Insight asked the reason for preferring face-to-face meetings, 85% of the people asserted that it was because face-to-face meetings allowed them to 'build stronger, more meaningful business relations'. When the meetings become digital, one cannot properly and fully, ever portray one's feelings one's emotions and feelings; nothing can possibly ever compensate for or take the place of a handshake. Nothing could ever manage to express the same feelings or emotions as such actions, which make them so important in business: the right gestures can make or break a business deal.

The second most common reason (77%) for preferring face-to-face meetings was that it allowed the people to read the body language and the facial expressions of others. This would also play a big part in the decisions they would make and how they would word their sentences etc. Being aware of the other person's body language is extremely necessary in business because one needs to modify oneself accordingly and tread with care. Such knowledge is really helpful to people and influences their decisions greatly.

75% of the people in the Forbes Insights survey preferred face-to-face meetings because it gave them more social interaction. This is a psychological reason, also discussed in many other places, e.g. the New Yorker Magazine. The article concluded that "simply to exist as a normal human being requires interaction with other people" (p. 36). As more and more people are switching to digital contact with one another, their need for physical contact and conversation is greatly increasing. Without having any physical contact, people would be deeply affected in a very negative way hence there is still a need for face-to-face meetings. The other reason for this category of people was that the face-to-face meetings allowed them to bond with their co-workers/clients. This, again, is a valid point, because there is a dire necessity to develop good working relationships with one's clients or co-workers. Good relationships equals better understand and hence, overall better productivity. This is further mentioned in Professor Richard D. Arvey's White Paper 'Why Face-to-Face Business Meetings Matter', where he mentions a psychological theory, the social exchange theory, 'where human relations are viewed as an exchange of rewards among individuals or achieving equity between "what you put in" compared to "what you get out" of relationships.'

Another reason for the preference of face-to-face meetings is that smart meetings allow a person to be distracted too easily, and also, the meeting would always be limited by the quality of the technology. If something goes awry, there won't be much that could be done. Hence, people are still very much pro face-to-face meetings and will take more time to warm up to technology when it comes to business interactions.

Why do you prefer in-person, face-to-face business meetings/conferences?

Build stronger, more meaningful business relationships	85
Ability to read body language and facial expressions	77
More social interaction, ability to bond with co-workers/clients	75
Allow for more complex strategic thinking	49
Better environment for tough, timely decision-making	44
Less opportunity for unnecessary distraction	40
Lead to higher quality decision making	39
Easier to focus	38
Technology-enabled meeting often result in disruption and delays	23
Other	5

Image taken from Forbes Insights

i.   Why smart meetings are the future:

Although people may prefer face-to-face meetings, it is unlikely they that they will last.These meetings would obviously need to take place in a hotel, or a common place where all the participants can easily come to. In lots of these cases, especially when it comes to big corporations, there needs to be a bit of travelling to be done, to other countries maybe, even to other continents. After that, the people would be sitting down and spending a few hours, considering how tedious a meeting can get and how much of an attention span an average human being has. Once done with, the participants can return back and continue with other things.

There can be lots of disadvantages to this way of organising and conducting meetings. Firstly, this wastes lots of time, a luxury people cannot afford to have in today's world. The meeting would take ages to organise, taking into consideration how busy everyone would be and finding a suitable slot where everyone can easily come. That would initially waste time. Moreover, travelling to the location would also be taking up loads of time, especially if some of the participants might have to come from another country. Not just that, but the amount of money that would be spent on the airplane tickets would also be enormous. The travel cost of airplanes increases every year (according to 2011 a survey[1] by the American Express Global Business Travel, domestic travel fares increased by 10% and international fares did by 8%). Coupled with the hotel rates increases (3% domestically and 4% internationally), travelling and booking rooms can be a costly affair and take a huge chunk out of a company's budget. So much of this valuable time and scarce money (especially in this recession) wasted could easily be saved and utilised for so much more with using even the most basic smart meetings systems.

Another reason to call for the end of face-to-face meetings is how much they are contributing to environmental issues. Considering the colossal amount of travelling people would have to do, to and from the meeting location, is more than doing its bit to further decrease the state of this world. Driving around so much would increase the air pollution and the noise pollution while air travel would release a great deal of carbon dioxide to the atmosphere, further increasing the greenhouse gases and quickly bringing about global warming, leaving globalists and environmentalists fuming. Quick action needs to be taken to stop the situation from further deteriorating, one which is easily available by turning to smart meetings.

A few other advantages of smart meetings are that it allows one to multi-task, hence increasing productivity all the more and also, it allows data to be available for later review. The meetings will be recorded and be available for analysis at another time, when a person might be in a different mind-set, fresher and might be able to do something else, something better.

Lastly, a concern regarding face-to-face meetings is that about the results. Sometimes, there are loads of discussions, lots of progress is made. However, in the end, a decision cannot be properly reached because more data processing needed to be done. Instead, the meeting has to be repeated after a little more time, at the cost of money, time and pollution. Such an issue could probably be removed with a smart meetings system which allows real-time data

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[1]http://about.americanexpress.com/news/pr/2011/1q2011_monitor.aspx

processing and where the crunch calculations can be done simultaneously, as called for by Mark Lorion in his article 'How Technology Will Revolutionise Meetings'

All these reasons make it quite clear that smart meetings should definitely be the future. The University of Edinburgh[2] conducted a study which involved a three day event held entirely online, consisting of 260 IT workers. They estimated that holding the meeting online saved about a quarter of a million US dollars and prevented the release of 280 tonnes of CO_2. Another example of smart meetings trumping face-to-face is of Darryl Draper, who is the national manager if customer service training for Subaru of America and presents educational programs across the nation. She has estimated that, since switching to smart meetings, in six months, she reaches about 2500 people at the cost of 75 cent per person, compared to before, which was 220 people at a cost of $300 per person. One last example is of Cisco, which has obtained more than 200 telepresence rooms, and is now avoiding up to $100 million in yearly travel costs and reducing its greenhouse gas emission from air travel by 10%. Therefore, there is no doubt that smart meetings is the way to go, such an approach is absolutely monumental in saving time, money and our planet.

ii.   A suitable solution

Technology is only going to be getting better and artificial intelligence is going to cover up all its deficiencies in the coming years. Hence, let's discuss a generic smart meeting system before deciding on a perfect model.
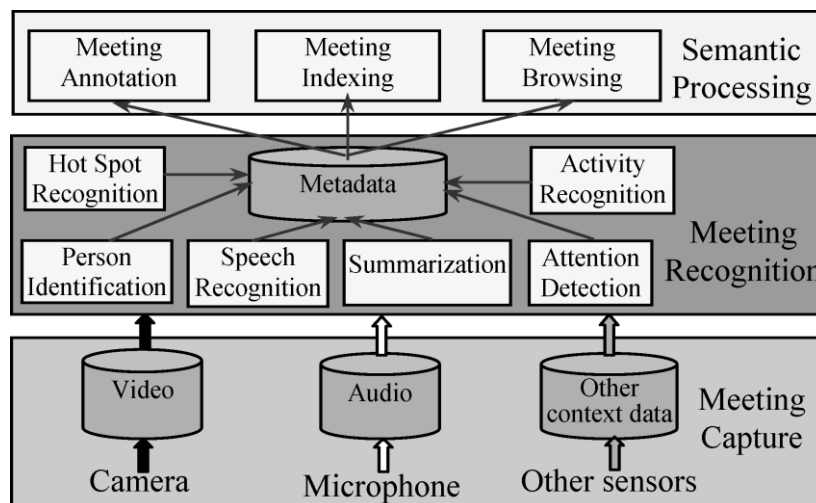
The generic architecture of a smart meeting system (taken from *Smart Meeting System: A Survey of State-of-the-Art and open issues by Zhiwen Yu and Yuichi Nakamura*

To support a system, there is a necessity of sensing devices, ranging from cameras to even lighting and motion sensors. This will enable more complete collection of information of a specific meeting. Software would also be needed, which would be able to recognise people, activities etc. and be able to analyse the data given to it.

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[2] http://www.ed.ac.uk/news/all-news/meetings-291111

9

The lower most section of the system deals with how the meeting is recorded. Only the audio could be recorded, or the video could also be recorded; if there is any other context data, it may be recorded too. In our model, video recording can be done with the help of a static or a moveable camera. Since these two are somewhat limited in their range, a camera array would be a better option, one of the examples being FlyCam (Foote, Kimber et al., 2000), which uses four cameras to achieve a view as accurate as possible. For audio recording, microphones can be chosen from about six different types. Here, the RingCam(Cutler,Rui et al, 2002), might be a good recommendation, as it has 360^0 camera and an 8-element microphone array. To capture any other contexts, a variety of different sensors are available such as RFID (Radio Frequency Identification), head-tracking etc. Kern et al (2003) had a network of 3 axes accelerometers which would be distributed over a person's body and provide information about orientation and movement of body parts.

Meeting recognition is the middle level, where most of the data processing takes place. The main contents of a meeting can be summarised, the people taking part and their speech can be identified. Hot spots are the parts of meeting in which participants were highly involved. Recognising it would be extremely useful and would help provide a better outcome for a meeting. Lastly, the activity taking place could also be recognised and hence human behaviour could be monitored. For person identification, a very widely used algorithm, the Eigenface approach (Turk, Pentland, 1991) can be used. SSL (Sound Soucre Localisation) is audio-based and helps locate the speaker etc. (Liu et al., 2007). However, if lots of people are sitting somewhere close to each other, microphone arrays come in handy differentiating the different voices and people. To summarise the meetings, Waibel et al. (2001) have discussed a summarisation system which is more audio-based and helps remove unwanted material, and also is intelligent enough to detect question-answer pairs and sort out things according to their relevance. It is also even possible to detect the level of attention (Stiefelhagen et al., 1999) by tracking head and eye orientation. For hot spots, Gatica-Perez et al. (2005) have considered a methodology which is based on the Hidden Markov Models and automatically detects segments of high interest. Activity recognition can be of many types (Mikic et al. 2000). It could be one person in front of a board, maybe a lead person speaking, or group activity. Accordingly, the suitable devices can be used. For the singulars, head tracking is the best approach (Nait-Charif, McKenna, 2003). However, as group activity is somewhat different, a suitable model is one suggested by McCowan et al (2005), which models join behaviours of participants based on a two-layer HMM framework.

The last section is the semantic processing. One of its parts is Meeting annotation, in which, data is labelled using descriptors. Another is the indexing of meetings and lastly, meeting browsing, allowing the users to see and review meetings that have taken place. A scheme, such as semi-automatic annotation which involves hand gesture labelling, could be employed; different ones have been discussed at length by Reidsma et al. (2004). For meeting indexing, a very popular model suggested by Bounif et al (2004) could be used, which uses a meta-dictionary structure to manage annotations and create many indexes to semantics. Lastly, for meeting browsing, a model which provides interactive browsing and playback of lots of meeting data (Mikic et al., 2000) would be the best option.

Two new features that could also be somehow implemented are basically contained in an already existing application called MeetingAssistant (Zhiwen, Nakamura et al., 2007). One of them is real-time browsing is, which would allow review of the meeting while it is being carried out. This would help organise the meeting better and allow more efficiency, as the participants would be more aware of others around them and their behaviour. The second feature is the awareness of the context which would be helpful as it provides intelligent browsing, depending on the situation of the user, thereby increasing productivity.

The main open issues that remain mostly concern security issues and a few real-time feed-backs, which are desperately required. Other than that, such a system is bound to increase data productivity and change business meetings as we know them completely.

4   Conclusions

It has been determined that although there are quite a few reasons to vouch for face-to-face meetings, it's just not feasible, financially and environmentally, to continue with it. Instead, smart meetings are gradually becoming a necessity, but not only that, a much better and helpful way to conduct meetings. From the discussion of the smart meeting systems, and the different technologies there are in question, it is quite obvious that smart meetings are closing the gap and slowly trying to offer the same features that makes people favour face-to-face meetings. There are some issues regarding privacy and security and there is a demand for the systems to be able crunch data in real-time, but that will most certainly be looked at and possible in a few years.

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