



Virtual Group Dynamics and Social Networks

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Understanding our online behaviour

Online Decision Making



A main stream of research about this topic have focused on comparing face-to-face (FtF) versus computer-mediated (CM) decision making.

- It also appears that **the order of the FtF and CM discussions are important**: FtF discussion that are preceded by CM discussions (either synchronous or asynchronous) are perceived to be more enjoyable by the participants and include a greater diversity of ideas than are FtF not preceded by CM exchanges (Dietz-Uhler and Bishop-Clark, 2001)
- Surprisingly, **FtF participants feel more influential and satisfied** than CM groups regardless of the decision making technique adopted (Thompson and Coover, 2002)
- An interaction between the communication mode and communication process goals have been found. **When individual's goal was merely to convey information, the FtF and CM teams performed equally well**. When the goal was to converge on a best solution, however, the FtF communication resulted in better performance (Murthy and Kerr, 2003).

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Impression formation on social networking sites



A special type of decision-making is required when individuals need to think critically about a problem or issue. This is especially important when individuals work in a group or team and need to collaborate and think critically about a situation

- **The competence in CM increases mutual understanding and satisfaction, and approximates the results achieved in FtF conditions (Cornelius & Boos, 2003)**
- **Agreement is an important social outcome of group processes. Results indicate that agreement can be achieved in asynchronous anonymous CM groups while exchanging only a few characters of information about their respective positions.**
- **Conclusions indicate the key software design criteria for obtaining agreement is not richness, but dynamic many-to-many linkages between the group members (Whitworth, Gallupe & McQueen, 2001)**

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Critical Thinking



The last 10 years have seen a major shift in the way people use the internet (2004-2014), with internet users becoming content creators as well as consumers.

A lot of exciting new research is coming out on how people use these networks to communicate and make judgments (i.e., form impressions) of other people based on their social networking profile.

- **People are rated as being more physically and socially attractive if their friends are physically attractive.** The authors also found that **positive friends' statements on a profile owner's site raised the perceived attractiveness of the profile owner** (Walther et al., 2008).
- **People use cues left by friends on social networking walls to make inferences about the attractiveness of profiler owner in the absence of better information** (e.g., actual interactions with the person)

Which cues do people use and why?

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Which cues do people use and why?

Warranting Principle

The warranting principle states that onservers give greater credence to cues that are harder to fake for the person being judged. The warranting principle is based on the assumptions that people try to present themselves in the best possible way and that observers know this and take it into account by weighting the information based on the difficulty of being manipulated by target (Walther & Parks, 2002)

Negativity effect

A competing perspective is the negativity effect, which states that people give more credence to negative information (as opposed to positive information), and is supported by much research in social psychology (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001)

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Which cues do people use and why?

- People's ratings of the attractiveness of the profile user were most strongly related to one's friend's opinion, suggesting that a major way that people make judgements of people online is by **using cues that are harder to manipulate** by the person being judged (Walther et. al, 2009)
- When two types of stimuli (Verbal and Photos) are presented separately, a **textual primacy effect is observed, but when the two stimuli were presented together, a visual primacy effect occurred** (Van Der Heide et al. 2012)
- Textual disclosure were only influential when the self-statement was **introverted in nature** (evidence suggests that extraversion is associated with positivity)

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The Social Net and Heuristics



What heuristics do people use to make judgements of others when using social networking sites?

- People use information that cannot be easily manipulated by the target to make decisions (Warranting principle). This finding could be reinterpreted as **people following the heuristic “Identity information that cannot be manipulated; weight each piece of information accordingly; arrive at a decision”**. This would be a **tradeoff heuristic** because it involves looking at multiple cues and weighting them appropriately (Walther, et. al, 2008, 2009)
- Many shopping websites allow people to rate and review the products they are selling. When people choose the product that has the highest rating in its category, they are using the **“choose the best” heuristic**.

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The Social Net and Heuristics



What heuristics do people use to make judgements of others when using social networking sites?

- Many people make decisions based on the popularity (or unpopularity) of the product among their friends - **the “what is popular is good” heuristic**, a type of social heuristic.
- Finally, **Recognition Heuristic** are used online and much research has a heuristic component even though it may not be explicitly stated as such.

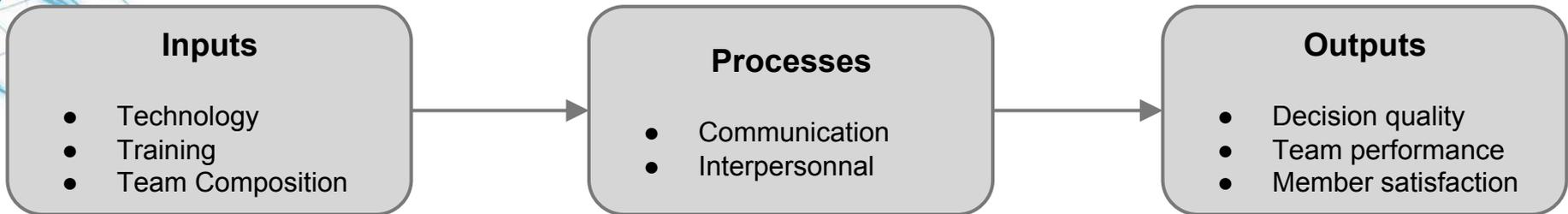
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Decision-Making in Virtual Teams



In order to analyze the decision-making in Virtual Teams is useful to adopt the Input-Process-Output model (Hackman & Morris, 1975)



This model states that team and environment qualities (inputs) affect team outcomes (outputs) through various team processes

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Decision-Making in Virtual Teams



Inputs are the initial conditions and qualities of the Virtual Teams (VT) and environment. VT researchers have identified a number of important factors that influence decision making.

Technology

- **No communication technology is inherently superior**, the best technology for a specific situation depends on the qualities of task and the communication technology (Ebrahim, Ahmed, & Taha, 2009).
- **VTs take longer to make decisions** (Cramton, 2001; Hollingshead, 1996)
- **Team members are less able to accurately assess other members' knowledge in VT** (Ebrahim, Ahmed, & Zahari, 2009)

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Technology

- These difficulties are due to **reductions in nonverbal cues present in most CMC** (Martins, Gilson, & Maynard, 2004)
- The difficulties can be partially mitigated by using more rich communication mediums (e.g., video chat). **Studies have found that the use of rich communication technologies can improve decision quality** (Baker, 2002), and increase general team performance (Baker, 2002; Carlson & Zmud, 1999; May & Carter, 2001).
- The use of **rich communication technologies can promote trust** (Pauleen & Yoong, 2001), **and team commitment** in certain circumstances (Workman, Kahbweiler, & Bommer, 2003)

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Decision-Making in Virtual Teams



Having the best technology does not ensure that the team will perform well or make good decisions. VT members need to be proficient in utilized technology or the benefits of the technology will not be realized,

Training

- VTs perform lower than traditional teams during the early stages of the team's life cycle, but approached the traditional teams' level of performance as time passed (McGrath and Hollingshead, 1994).
- Training has been shown to increase decision-making quality and team performance (Kaiser, Tullar, & McKowen, 2000)

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- **Training foster team members' feeling of cohesiveness, trust, and commitment to team goals (Beranek, 2000)**
- **An alternative training approach - mentoring programs - have also been found to be effective (Suchan & Hayzak, 2001; Hertel, Geister, and Konradt, 2005)**

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When VTs are used, geography and time (i.e., time zones) are no longer limiting factors in choosing members for a team, the best person can be selected regardless of physical location. This advantage, however, comes at a price.

Team Composition

- Teams with culturally diverse group members tend to have more difficulty both communicating and coordinating (Van Ryssen & Godar, 2000)
- Teams members from different regions of the same country may have difficulty coordinating with each other (Robey, Khoo, & Powers, 2000)
- VT members attempting to understand and accept these differences can mitigate the negative effects (Robey et. al., 2000)
- as can developing clear protocols and project roles (Malhotra & Majchrzak, 2004)

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Decision-Making in Virtual Teams



Processes are the meat of the I-P-O model: they explain how inputs are turned into outputs.

Communication

- **VTs typically do not communicate as well as their traditional counterparts** (Bhappu, Griffith, & Northcraft, 1997; Ebrahim et. al., 2009; Hollingshead, 1996)
- **The observed difference is often attributed to reduced nonverbal information in CM discussions** (Sproull & Kiesler, 1986)
- **Another difficulty arises with the use of asynchronous forms of electronic communication:** How does one interpret a nonresponse? etc ...
- However, CMC has its benefits. Communicating over an electronic medium has been found to **have an equalizing effect in regards to social status** (Bikson & Eveland, 1990)

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Processes are the meat of the I-P-O model: they explain how inputs are turned into outputs.

Communication

- **People lower in social status are more likely to contribute** when the communication is done through an electronic medium.
- In decision-making contexts, **using electronic communication mediums can be useful in encouraging low-status individuals to share critical information.**

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Processes are the meat of the I-P-O model: they explain how inputs are turned into outputs.

Communication

- Certain communication technologies keep a **digital record of the dialogue**, which can be useful for referencing decisions made during the meeting.
- Certain types of **groupware can increase team effectiveness by reducing the occurrence of harmful group phenomenon**. Researchers found that **social comparisons enabled by these technologies were effective at reducing social loafing in electronic brainstorming groups** (Shepards et. al., 1996)

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Interpersonal processes

- One interpersonal procedure that has received considerable attention is the formation of trust. Interestingly, **the factors that contribute to the formation of trust seem to depend on the history of the team and the phase of team's life cycle.**
- **When the team is just forming, trust is primarily determined by members' initial propensity to trust and the members' perceptions of their teammates' integrity and competence (Aubert & Kelsey, 2003)**
- **Later on, trust is less influenced by perceptions of others' competence, while the importance of perceived integrity and one's propensity to trust remain the same.**

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Decision-Making in Virtual Teams



In the I-P-O framework, decision quality is a result of a complex interplay between initial inputs and processes. But do VTs make better decisions than traditional ones?

The evidence is mixed.

Outputs

- Some researchers have reported instances where **VTs have outperformed their traditional counterparts** (Chidambaram & Jones, 1993)
- but the majority of studies resulted in either **no difference between VTs and traditional teams in terms of decision quality** (Archer, 1990), or number of ideas generated (Lind, 1999)
- The only consistent findings in regards to online decision-making is that **online teams take longer than non-virtual teams** (Cappel & Windsor, 2000; Graetz, Boyle, Kimble, Thompson, & Garlock, 1998)