

IMPLICATIONS FOR REAL PROJECT MANAGEMENT SUCCESS: A STUDY OF AVATAR IDENTITY AS AN ANTCEDENT OF TEAM TRUST

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ABSTRACT

By providing immersive, three dimensional environments where users can meet and communicate through *avatars*, or their graphical and fully customizable online alter egos, *virtual worlds* can replicate face-to-face meetings (Davis, Murphy, Owens, Khazanchi, & Zigurs, 2009; Schultze & Leahy, 2009). Unfortunately, minimal research exists into the application of virtual worlds on virtual project teams for real project management success (Davis, et al., 2009; Kaplan & Haenlein, 2009). This is a concern because virtual worlds present a paradox: they can mimic face-to-face communications to restore the visual cues that foster trust (Cowell & Cowell, 2009; Davis, et al., 2009) but their avatars' identities may diverge from their owners', thus potentially undermining that trust (Galaxhi & Nah, 2007; Wolfendale, 2007). Since virtual team members may never physically meet, it is unclear how this will affect virtual team member trust and project success when avatars are used for project communication.

BACKGROUND

Establishing a workable level of trust on virtual teams presents a challenge (Gwebu, Wang, & Troutt, 2007; Jarvenpaa & Leidner, 1999). Since colleagues come together virtually for short periods, disburse afterward and may never physically meet, they rely on expectations from colleagues' assigned roles and skills to establish *initial* or *swift trust*. This type of trust is fragile, so quick and repetitive success and regular, high quality communications are critical. In addition, problems are more visible so traditional behavior control mechanisms such as status reporting become problematic (Alterbosch, Pierce, & Simmons, 2008; Gwebu, et al., 2007; Jarvenpaa & Leidner, 1999; Piccoli & Ives, 2003; Steinkuehler & Williams, 2006).

Unfortunately, traditional computer mediated communication (CMC) technology tended to muffle social cues and muddle the context of communications in virtual team settings (Gwebu, et al., 2007; Jarvenpaa & Leidner, 1999; Piccoli & Ives, 2003; Powell, Galvin, & Piccoli, 2006). On the other hand, for years virtual worlds have provided settings that simulate face-to-face meetings on the Internet (Damer, 2008; Spence, 2008). By immersing users in realistic, online spaces that provide a powerful sense of presence, virtual worlds can simulate co-location (Davis, et al., 2009), facilitating similar levels of trust to that which occurs on co-located real world teams.

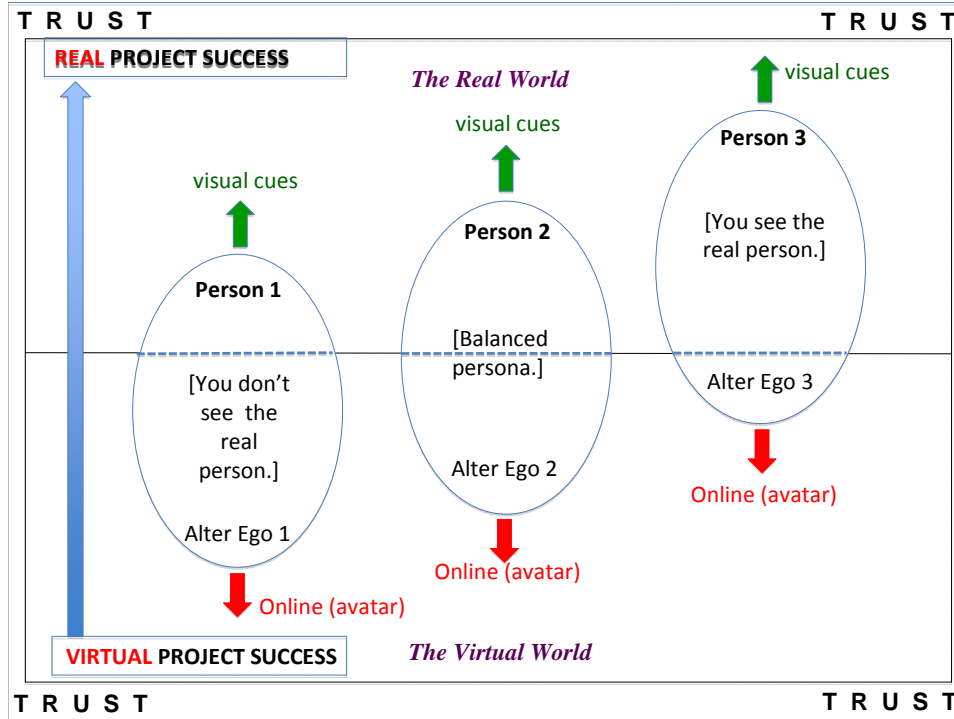
Avatars are fully customizable, graphical representations that users create to represent themselves in virtual worlds. While virtual worlds can provide formal and informal meeting spaces that approximate reality much better than anything that came before (Ducheneaut, Moore, & Nickell, 2007; Steinkuehler & Williams, 2006), collaborating through avatars that may misrepresent their owners' identity can be problematic. Such misrepresentation may hinder the effective establishment of trust but the literature does not confirm the extent of impact (Junglas, Johnson, Steel, Abraham, & MacLoughlin, 2007; McArthur, 2008; Messinger et al., 2008). It is reasonable for potential colleagues to wonder about perceived feelings and sincerity when meeting in virtual worlds and, most important, whether they can trust each other (Galanxhi & Nah, 2007; Kaplan & Haenlein, 2009; Schultze & Leahy, 2009).

This study addressed several research questions. First, when the goal is real project success, what impact will communication using avatars have on team trust? Then, when the goal is real project success, will certain types of avatar personas have more or less effect on the establishment of team trust and why? Answering these questions addressed the study's overarching research question: is the projection of an authentic identity via one's avatar an antecedent of team trust when virtual teams must deliver real world projects?

METHODOLOGY

This research model synthesizes these themes and suggests a direction for the research methodology. Its key components are depicted in Figure 1.

Figure 1: Research model, avatar personas, trust and project success



Trust bounds the model. Without trust, virtual project teams will not achieve success. The model is divided into the virtual world (i.e. the bottom half as shown) and the real world (i.e. the top half as shown). Most avatar research has focused on the bottom, or virtual world, half of the model. The arrow shows a shift of the research focus to the real world aspect of the model.

The model portrays three avatar personas whose visual cues project two extremes with a midpoint. *Person 1* portrays *Alter Ego 1*, positioned primarily in the virtual world. *Alter Ego 1* represents people who depict their avatars as having another gender, race or more outlandish characteristics. *Person 2* portrays *Alter Ego 2*, a balanced persona positioned equally within the real and virtual worlds. *Alter Ego 2* represents people who design their avatars to look like themselves with minor modifications, such as presenting themselves in a more flattering light. *Person 3* portrays *Alter Ego 3*, positioned primarily in the real world. *Alter Ego 3* appears identical to its owner.

In addition, the model depicts two types of project success. *Virtual Project Success* has received considerable research emphasis. This type of success is achieved when teams communicate via avatars in online games and building tasks conducted solely in the virtual context. *Real Project Success* has seen minimal research focus. This type of success is achieved when projects critical for business or society are successfully delivered.

This study employed a qualitative, grounded theory approach since minimal research exists at the intersection of virtual worlds, project management and trust. One-on-one

interviews were conducted. These interviews included a brief demonstration of the virtual world application *Second Life* that described how to customize an avatar, how colleagues would meet and communicate, the ease with which users can assume other identities, examples of avatars representing Alter Ego 1, Alter Ego 2 and Alter Ego 3 and the use of profiles. Each interview concluded with an interview protocol covering five open-ended questions that started with participants' general perceptions of communicating using virtual worlds on real projects and moved to their reactions to specific avatar personas.

A sample of twenty-one participants was engaged, of which the feedback of nineteen participants who consented to digital recording was used because their transcripts were more complete than those of the others. To facilitate data analysis, Creswell (2007) described a process of coding qualitative data that proceeds in three steps, from *open codes* that constitute general concepts to *axial codes* where open codes are grouped by common themes to *selective codes* chosen as the primary focus. Initial data analysis generated 119 open codes grouped into three axial codes. The first axial code highlighted participants' confirmation of the opportunities for enhanced expression and project facilitation virtual worlds and their avatars provide. The second axial code focused on participants' perceived issues with virtual worlds and avatars and their recommendations for addressing them to provide comfort in the medium. The third axial code captured participant attitudes toward others' avatar designs. Since this third axial code comprised the largest number of open codes and described the study's central phenomenon it was chosen as the selective code.

FINDINGS

Participants stated virtual worlds provide opportunities for enhanced personal expression and expected the way colleagues portray themselves using their avatars would provide a window into their true selves and foster trust. For such participants, using avatars seemed to provide a "short hand" for presenting their true selves. In addition, a prominent theme was using avatars to "level the playing field" among team members. By honestly portraying their true selves via their avatars, participants expected more forthright communication and believed this would foster the confidence to speak more effectively, lessen introverted colleagues' inhibitions and foster idea sharing. They also perceived an opportunity to reduce the impact of strong personalities for balanced discourse and better decisions. Several participants also thought using avatars to collaborate would facilitate project goals by emphasizing tasks and focusing team members on content instead of politics.

After reviewing the demonstration, participants confirmed the inability to view colleagues' body language would negatively impact their potential trust in collaborating via virtual worlds and avatars and they were uncomfortable with the possibility others might be reacting to them without their knowledge. In addition, *Second Life's* voice feature created discomfort because participants thought the avatar's body movements were not synchronized to what was said and confirmed better alignment of word and movement would improve their trust. Many participants suggested including a profile and picture of real life owners with their avatars to foster trust among virtual project team

members, while some also recommended meeting in person before project initiation to foster positive interpersonal relationships. A handful of participants also cited defining norms for avatar design and use following corporate etiquette.

Most participants confirmed they were more inclined to trust avatars that accurately depicted their owners than avatars that did not because they were concerned colleagues who presented themselves inaccurately would either be hiding something or dishonest. Since so many participants echoed these sentiments, it seems reasonable to conclude an authentic representation via one's avatar is an antecedent of virtual team trust. Further examination belies this. While a handful proceeded to choose the most authentic avatar, Alter Ego 3, as the one they would most trust, most chose otherwise. This contradiction defines this study's central phenomenon: while participants confirmed they would trust an authentic avatar, most then chose otherwise after viewing the samples. The participants who did not choose Alter Ego 3 were repulsed by the images it portrayed and it is interesting to note most of these participants were white females while Alter Ego 3 and its owner were depicted as non-white males.

Greenwald, McGhee and Schwartz (1998) defined *implicit attitudes* as perceptions, judgments or attitudes cultivated by past experience which foster unfavorable or favorable thoughts, actions or feelings. Implicit attitudes are triggered without their owners' awareness and contrast with *explicit attitudes* which are known or stated perceptions, judgments or attitudes. Parallels can be drawn between implicit attitude research and this study. Here, fifteen participants explicitly confirmed they would trust the most authentic avatar. Then they selected other avatar designs because they probably harbored negative implicit attitudes toward the most authentic avatar.

A THEORETICAL MODEL

This study's findings indicate relationships that can be modeled. First, if trust is successfully established the potential for leveraging opportunity increases, as shown in Figure 2.

Figure 2: The impact of trust in avatar communications on opportunity

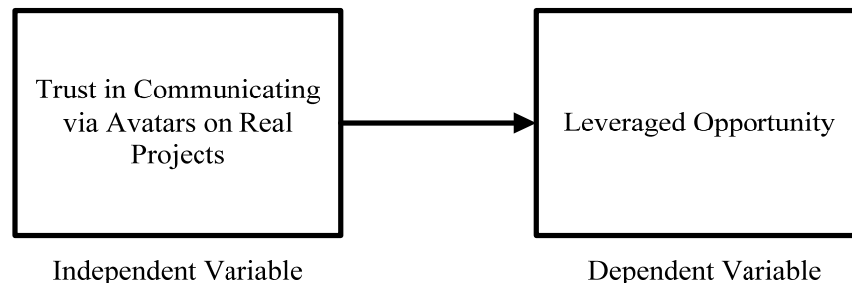


Figure 3 reassigns the first model's independent variable, trust, as its criterion. It introduces a new predictor, team member comfort in the medium of virtual worlds and a composite moderating variable entitled "Mechanisms to Ensure Comfort" that includes participants' suggestions for addressing their cited issues with the medium.

Figure 3: Trust in communicating through avatars via team member comfort

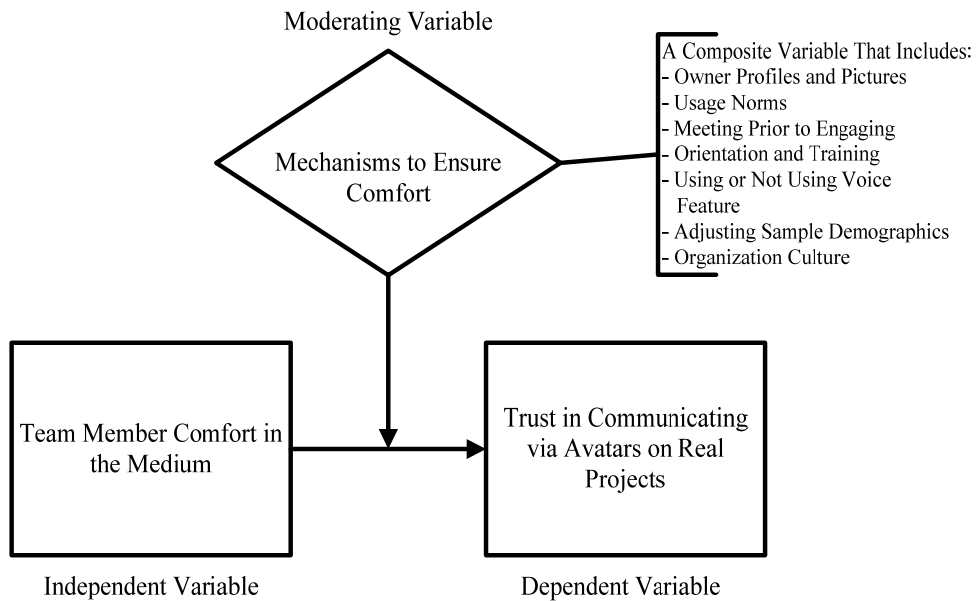


Figure 4 also sets trust as its criterion and introduces a new predictor, “Implicit Attitudes Toward Others’ Avatar Designs.” This model introduces a moderating variable entitled “Mechanisms for Attitude Change” which introduces mechanisms that modify implicit attitudes.

Figure 4: Attitudes toward avatar designs and trust in communicating via avatars

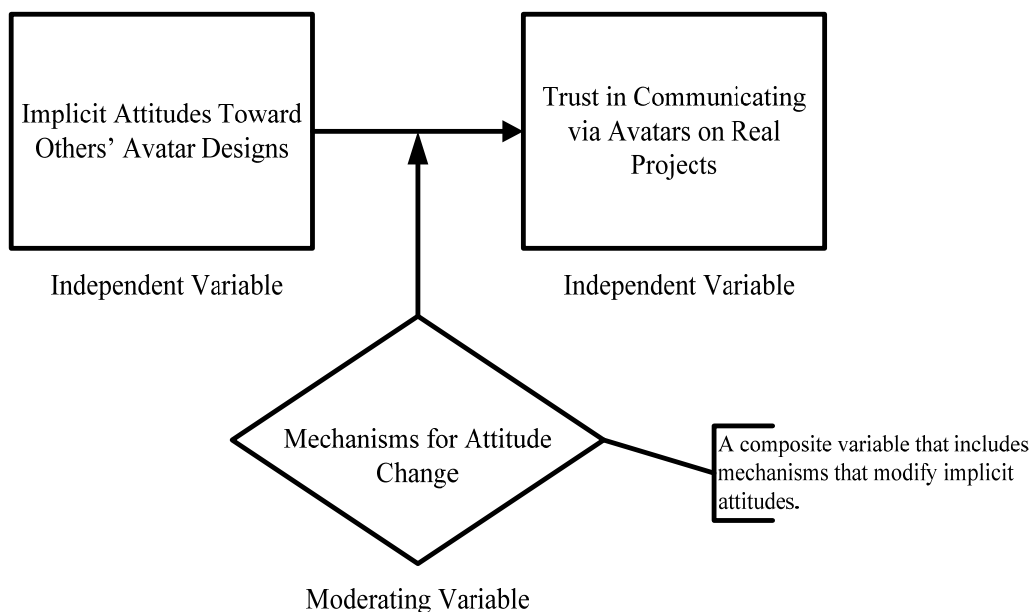
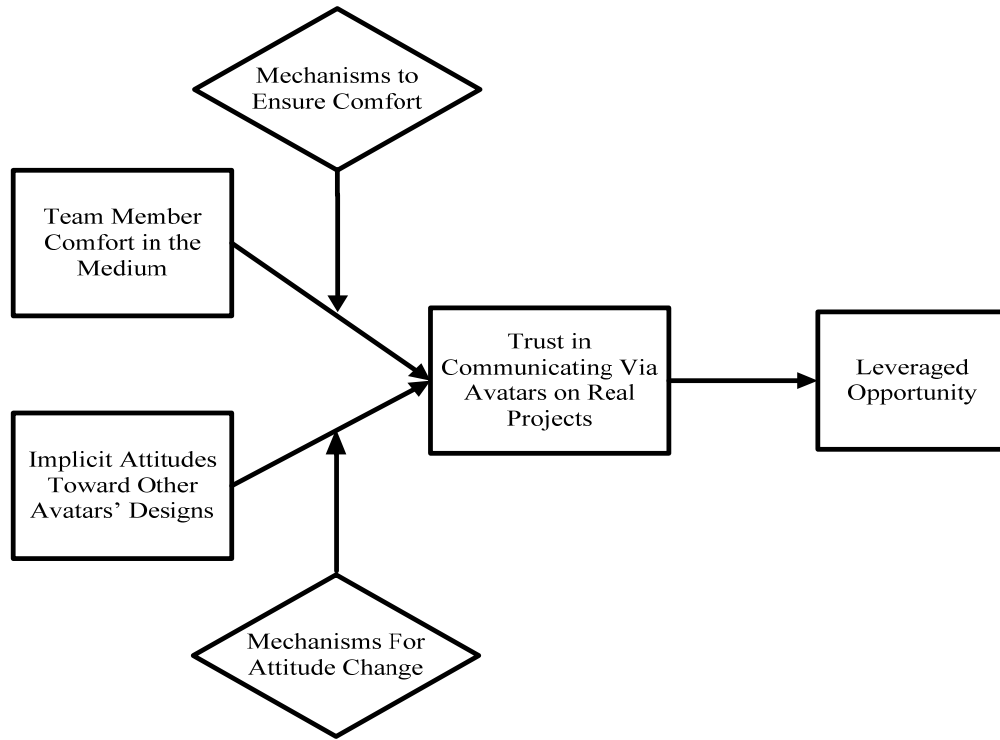


Figure 5 displays a comprehensive theoretical model derived from these components.

Figure 5: The impact of comfort and attitudes on avatar trust and opportunity



CONCLUSION

This qualitative study was conducted to inform project managers of the impact that the authentic projection of coworker identity via avatars has on trust and potential project management success when teams use virtual worlds to collaborate. Real management success was the main objective, since it is vital for the enterprise to use all means possible for competitive advantage in an ever-expanding technological society.

The study generated a theoretical model that can be tested in a variety of ways. Its findings confirmed participants saw a clear opportunity for applying virtual worlds to help virtual teams effectively deliver real projects. Participants were also eager to share the issues they perceived and recommendations for improvement to ensure comfort in the virtual world medium. On the other hand, the answer to the research question of whether the projection of an authentic identity via one's avatar is an antecedent of team trust when virtual teams must deliver real world projects is less clear. The answer seems to be maybe, if the perceiver is comfortable with the image portrayed. While negative implicit attitudes may have caused participants' strong negative reactions to the study's most authentic avatar, this should be tested.

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