

Protocol for Working in Diverse and Distributed Project Teams

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ABSTRACT

This paper provides specific guidelines for dealing with the unique business etiquette and social protocol issues in working in culturally diverse teams of Mobility Industry professionals in a geographically distributed Project Team collaborative environment. The challenges to be addressed arise from the considerations that (1) industrial products, rather than consumer services are involved, (2) some technical professionals are less socially adept than members of other groups, (3) virtual collaboration often does not allow all elements of non-verbal communication to be effectively employed, and (4) different cultures have diverse perceptions and sensitivities. The probability of project success is enhanced when the team members have an understanding and appreciation of these challenges, follow clear guiding principles for working virtually with diverse and distributed participants, engage in productive communications, have effective leadership, and conduct win-win negotiations.

INTRODUCTION

There has been a significant rise in the use of multi-disciplinary Project Teams in business, government, and industry to accomplish focused objectives in a given period of time. The development and widespread use of advanced communications technologies and applications – the Internet, wireless, email, web conferencing, video teleconferencing, and many others - has enabled such teams to operate in a distributed but virtual environment. These dedicated teams can include participation by demographically diverse groups spread literally around the world and reflect the globalization of the U.S. and world economy. Indeed, SAE International includes members from almost 100 countries.

Distributed Project Teams can be comprised of members from different business units of the same company located throughout the country or the world, or can include participation from multiple companies who are collaborating as strategic partners, prime/sub, industry consortium, or in some other arrangement. A

survey of over 650 architects, engineering and construction professionals, project managers, and facility owners and operators¹ found that only about 6% did not collaborate with peers, design partners, and clients about project information. While most collaborations among architects and engineers in this survey occurred in person and locally, many transpired electronically, with a significant percentage involving global participants as shown in Figure 1 (total percentages exceed 100% since multiple collaboration venues are likely).

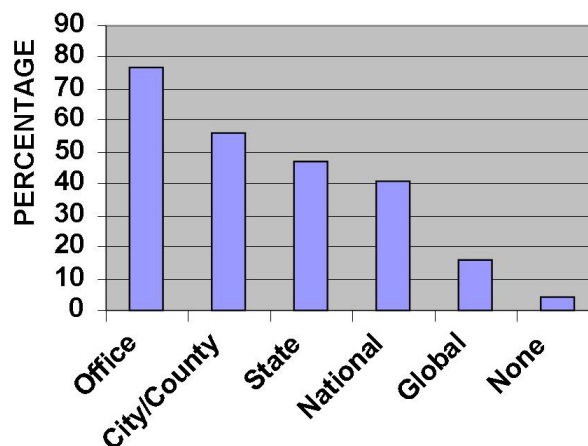


Figure 1. Project Collaboration Locations

Some 33% of the respondents in this survey said that they would like to increase the use of web conferencing to reduce travel costs and time out of the office, but only 16% actually use it. This survey found that while 94% collaborate with peers, design partners, and clients (both in person and electronically), only 20% of them described their experiences as very satisfactory. The focus of this survey was on technical factors and found that the issues were delays in receiving input, communicating across time zones, incompatible software, and difficulty interpreting feedback.

Other studies have also considered the technical barriers to effective virtual collaboration. A project to improve Quality of Experience in Advanced Collaborative Environments² identified the following

issues: complexity of existing tools, poor quality of sound and/or video, technology limits to the number of participants, lack of flexibility of the technology to accommodate different types of projects, variations due to fluctuating network performance, software glitches, bandwidth availability, and the frequent need for IT specialists to set up and monitor collaborative sessions.

This paper will focus on the social rather than technical protocols involved in successful collaborative projects. Social Shaping of Technology (SST) has emerged as a construct to analyze the relationship between society and technology, based on the theory that social, institutional, economic, and cultural factors can shape choices that result in the emergence or applications of technologies in ways not driven by the technical factors alone.³

One case study⁴ applying this methodology to a project for setting technical standards for collaborative IT networks in the automobile industry concluded, *“Though often portrayed as a narrow technical matter, standard setting is a complex social process, shaped by an array of factors and representing embodiments of social relationships between the actors... every actor can be seen to represent their employer on the one hand and their individual professional interests on the other.”*

Similarly, this paper will address the non-technical factors relating to achieving successful outcomes of engineering, manufacturing, or business collaborative exchanges among geographically distributed and culturally diverse Project Teams, particularly in the areas of communication, leadership, and negotiations.

According to Midwest Protocol, a company that provides business etiquette and international protocol training, *“Technical skills and knowledge account for fifteen percent of the reason you get a job, keep a job, advance in a job. Eighty-five percent of your job success is connected to your people skills, according to research conducted by Harvard University, the Carnegie Foundation and the Stanford Research Institute. Savvy business etiquette is part of one’s total image. Many companies are not willing to put an individual out front unless he or she can represent the company in the highest professional manner, and that includes courtesy and the social graces.”*⁵ Being familiar and comfortable with the “social graces” is always important in business, but imperative when working in a culturally diverse team.

The next section will describe the Challenges to be addressed in this convergence of the Mobility Industry, technical professionals, virtual meeting environments, and diverse cultural demographics. Subsequent sections will elaborate on the issues and approaches for Responding to the Challenges, Collaborating in Distributed Teams, and Working in a Culturally Diverse Environment. Final sections will provide additional

specific guidelines for Productive Communication, Effective Leadership, and Win-Win Negotiations.

CHALLENGES

The challenges to be addressed in this paper are depicted on Figure 2, and arise from the factors that: (1) designing and manufacturing industrial products, rather than providing consumer services, is the business involved, (2) some technical professionals are less socially adept than members of other groups, (3) virtual collaboration often does not allow all elements of non-verbal communication to be effectively applied, and (4) different cultures have diverse perceptions and sensitivities.

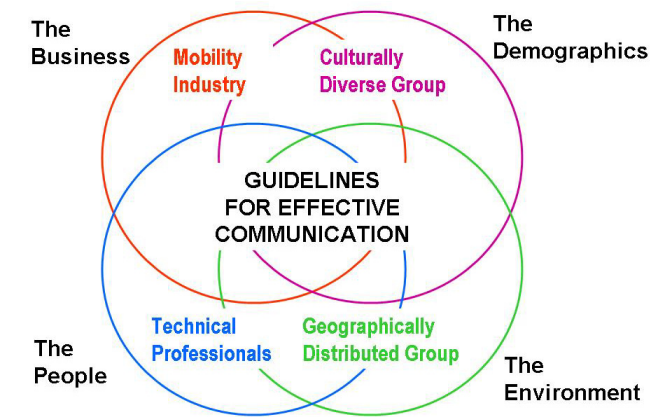


Figure 2. What Are the Challenges?

MOBILITY INDUSTRY - The challenge of effective communication is particularly relevant to the Mobility Industry which provides industrial products versus consumer services. Most of the participants in this business are engaged in the design, production or project management of things as compared to direct interaction with the end customers as people.⁶ The differences are summarized in the table below.

THINGS	PEOPLE
• Hard • Science • Quantitative • Project Side of Project Management	• Soft • Art • Qualitative • Management Side of Project Management

Table 1. Characteristics of Things versus People

While dealing with people is an important element in any occupation, it is an ancillary factor in this business compared to teachers, ministers, real estate agents, personal shoppers, social workers, lawyers, psychiatrists, and others who deal directly with people as the primary focus of their work. The latter group has, in general, more knowledge, training, skills, and experience applicable to working with and for people individually and in groups, and would likely initially be

more comfortable and productive in a diverse and geographically distributed collaborative environment.

TECHNICAL PROFESSIONALS – Much of the Mobility Industry work force is composed of personnel with primarily technical backgrounds and education focused on the physical rather than social sciences. The characteristics of the personnel involved occasionally include – dare it be said - a “nerd” factor (my husband, an aerospace engineer, sometimes still wears his plastic pocket protector and uses the wrong fork).

One commentator on this subject in a paper⁷ prepared for the Institute of Transportation Engineers noted, *“Engineers are well trained in technical-related skills. By nature, that is where they have the greatest degree of comfort. It is unusual to have to force engineers to keep their technical skill sharp. People-related skills’ training for the engineer, on the other hand, relies heavily on general family upbringing, training related to general life skills interests, or on-the-job training. ... People-related skills are generally taught in social science classes. However, undergraduate curriculums for engineers make room for only a couple of electives from the social sciences. With that extremely limited training, immediately upon graduation, new hires or candidates for advanced degrees are thrust into mandatory team situations that are formative to their budding careers. It is a formula void of interpersonal skills, bound to create hardship at one extreme and frustration at the other ... The point of this paper is to illustrate that [People] Skills are twice as important as technical understanding in successful careers.”*

There is some evidence that temperament is a factor in predisposing some individuals to pursue technically-rather than socially-oriented careers. One survey⁸ of foreign students studying engineering reported that they believed that Work Experience and English Skills were much more important than Social Adeptness (and Foreign Experience) in qualifying for employment.

There is even some suggestion that there is a physiological basis for a technical vocational inclination. The Wikipedia Encyclopedia states⁹, *“Many traits associated with the nerd stereotype, in particular an unusual penchant for accumulating highly specialized or technical knowledge, impaired social ability ... are characteristics of Asperger syndrome ...the Autism Spectrum Quotient (AQ) developed by Simon Baron-Cohen, find that occupations commonly linked to the nerd stereotype, especially fields of science and engineering, are associated with elevated AQ...”*

One commentator noted¹⁰, *“Social software systems are created by programmers who -- let's face it -- are not renowned for their social skills. A 1991 Wired article entitled “The Geek Syndrome” proposed a neurological explanation, highlighting an alarming rise in Asperger's Syndrome in Silicon Valley. Whether you buy that theory or not, it would be hard to argue that social adeptness historically has been linked to advancement in the engineering ranks.”*

The studies cited above and others^{11,12} have shown that scientists, engineers, mathematicians, physicists, and computer wizards typically are not, by training or temperament, as socially adept as other occupational groups, and this may exacerbate the situation in dealing remotely with team members from other cultures. (Interestingly, one study suggests that they don't need to be.¹³)

These observations are not criticisms of the personalities of technical professionals, and do not apply to all members of the profession. However, technical professionals need to be cognizant of their relative lack of proficiency in sensitively dealing with other people compared to things, and understand the importance of doing so.

GEOGRAPHICALLY DISTRIBUTED TEAM – There are many challenges in working together in a team environment when the team is not physically collocated. While advancements in advanced communications technologies and applications – the Internet, wireless, email, web conferencing, video teleconferencing -- have enabled teams to operate in a distributed, virtual environment, there remain major communication issues where the parties are not meeting face-to-face. These include limited opportunities to develop personal relationships, and constrained transmission/reception of verbal and non-verbal communications, depending on the media being used to conduct the virtual meeting.

In a pioneering study¹⁴ on communication, the author concluded that the words themselves are actually the least important elements of effective communication. As shown on Figure 4, body language is the most important element, and this is not always transmitted in virtual collaborations. Tone of voice is not conveyed in faxes and emails, and in situations where the virtual team includes members from diverse cultures, even the words can have differing interpretations due to varying degrees of fluency, special terminology, use of jargon and colloquial vocabularies, and pronunciation differences.

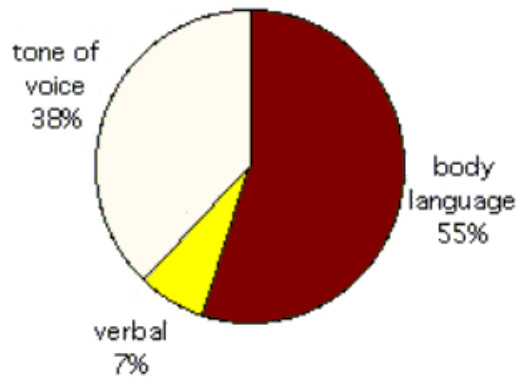


Figure 4. Importance of Elements of Communication

Body language includes those elements depicted on Figure 5.¹⁵ As discussed in the section on Working in a Culturally Diverse Environment, team members need to be aware of the different ways cultures interpret body language. In some cultures personal space is very important, and being too close makes some people uncomfortable. Different cultures have different ways of interpreting the same gesture. For example, in Australia, thumbs up can be considered rude; in England, it is a sign of approval.

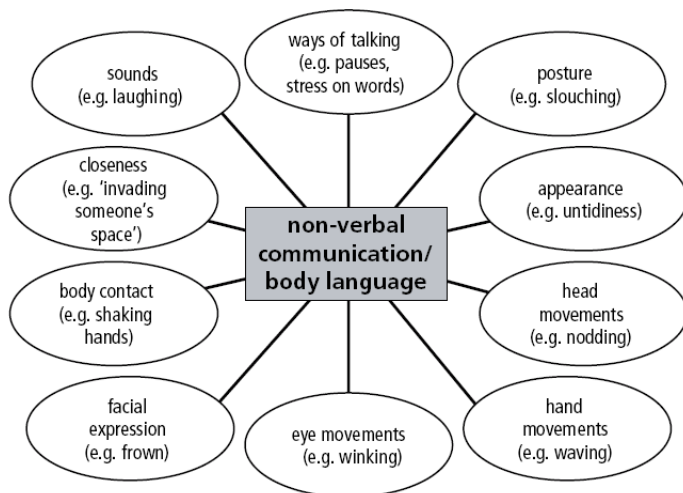


Figure 5. Components of Body Language

Other challenges for project teams working in virtual environments may include:

- limited opportunities to build personal relationships of trust and teamwork (no informal meetings around the water cooler or at the company picnic)
- working across different time zones
- the need for a project-oriented (versus functional or matrix management) supporting infrastructure

- difficulties in applying some standard operational policies and procedures, particularly those related to people compared to things
- lower immediate management visibility on status, progress, and issues
- issues in project integration and maintaining change and configuration control

CULTURALLY DIVERSE TEAM - Cultural background is a powerful force shaping an individual's thoughts and actions. People from different cultures process information differently, and use different frames of reference to make decisions. An understanding and appreciation of these differences among members of a diverse Project Team is important for effective leadership, communications, and negotiations.

While all team members have a common project goal, and may speak a common technical language of math and science, they do not necessarily have common personal agendas or perspectives because of their dissimilar ethnic, religious, gender, age, occupational, lifestyle, or other differing backgrounds.

The pie chart in Figure 6 shows the 2005 distribution of the global domestic product according to the International Monetary Fund.¹⁶ Although the U.S. remains the single largest economy, the rest of the world constitutes over 70% of it, and the U.S. share has been declining since the 1950's after it emerged as the strongest economic power after World War II with 35% of the GDP share.¹⁷ As other countries increase their participation in the world economy, the probability of working collaboratively with a citizen from another country and culture increases.

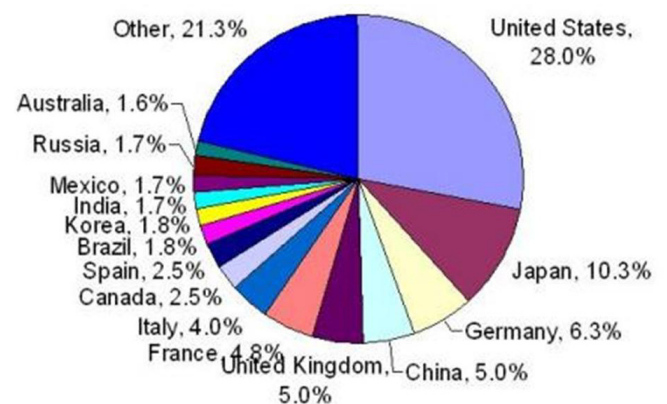


Figure 6. Shares of the World's Economy (2005)

It should be noted that in the automobile industry, the increase in other countries' market share over the years has been even more dramatic. Market shares in 2005 of domestic and foreign automakers for U.S. sales are shown in Figure 7, and for European sales on Figure 8.¹⁸ Figure 9 shows U.S. market share among General Motors (GM), Ford, Toyota, and Chrysler over the last 25 years. According to CNN Money, Toyota is the world's most profitable car maker, and has almost overtaken GM as the world's largest automotive manufacturer.¹⁹

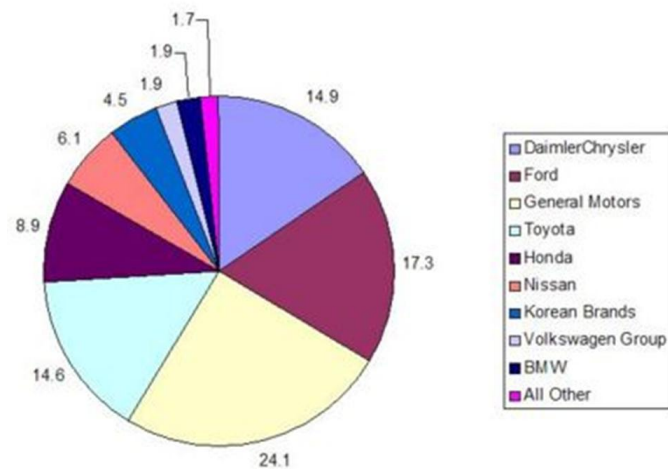


Figure 7. U.S. Automobile Sales 2005

These statistics suggest that the management and professional staff of U.S. automobile companies and foreign companies with offices and plants in the U.S., (and domestic companies with plants in other countries) have even more reason to become adept at interfacing with culturally diverse counterpart employees of foreign automobile companies. They are more likely than ever before to have to deal with such people as competitors, collaborators, employers, or employees themselves.

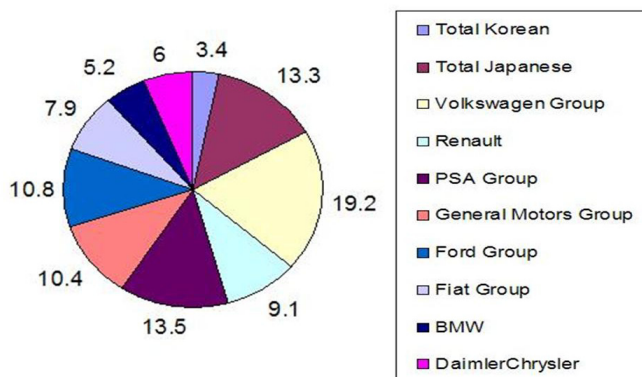


Figure 8. European Automobile Sales 2005

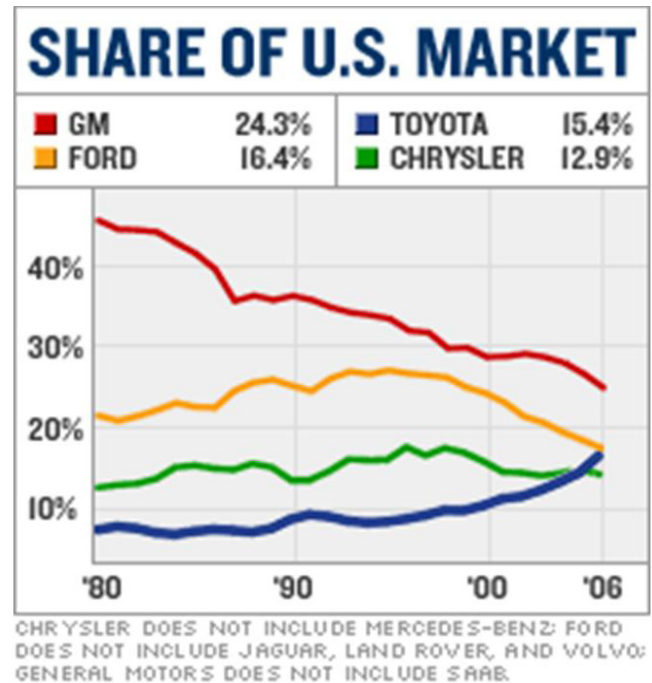


Figure 9. U.S. Automobile Market Share History

RESPONDING TO THE CHALLENGES

The first and most important step that should be taken by technical/management professionals in the Mobility Industry when assigned to participate in a virtual Project Team involving culturally diverse members is to recognize and accept that the Challenges discussed above are real and apply to them. Considerable space in this paper was devoted to the introductory material, including discussion of the Challenges, to sensitize readers to the issues and get buy in to the thesis that they can benefit from adopting the guidelines that follow. Just relying on intuition or "common sense" in participating in virtual teams including diverse members is not likely to result in a more successful outcome than following some structured set of proven conventions.

As indicated above, the rules for dealing with things are more scientific and quantitative than those that deal with people. Nevertheless, the fact that guidelines for dealing with people are not as mathematically precise as those that apply to engineering does not mean that they should not be studied and applied. Thousands of years of human interaction has resulted in an empirical body of knowledge on how people think and behave, and this has been augmented over the last 100 years with the development of a scientific approach to psychology.

Technical professionals may feel more comfortable approaching the Challenges to working on a diverse, virtual project team as they would a technical problem, and apply System Engineering (SE) principles. The NASA Systems Engineering Handbook²⁰ states, "In simple terms, the [SE] approach consists of identification