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*Traci Nathans-Kelly, Series Editor*

# International Virtual Teams Engineering Global Success

Pam Estes Brewer



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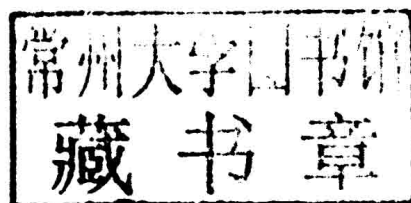
# International Virtual Teams

## Engineering Global Success

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**Pam Estes Brewer**

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Macon, Georgia



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# International Virtual Teams

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*To my family  
You are the everything*

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# A Note from the Series Editor

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The IEEE Professional Communication Society (PCS), with Wiley-IEEE Press, continues its book series titled *Professional Engineering Communication* with Pam Estes Brewer's new book *International Virtual Teams: Engineering Global Success*. Any organization, any company, and any class that uses distributed teams will find a treasure trove of information and insight with Brewer's observations, research, and recommendations.

I work with quite a few practicing engineers, and I teach undergraduate and graduate level students in a college of engineering, as well. And as I thought about it, I struggled to think of one—even one—of those people who had not worked on a virtual team, international or otherwise. Teams are now distributed across time zones, borders, and language barriers. Even on campus, students are continually working in teams, and much of that work is done online without being in the same room. Open access, free online workspaces allow for levels of collaboration that I could not have imagined even five years ago.

With these new tools, and with the expectations from employers, clients, colleagues, and instructors alike, the word “team” can become problematic, as it often feels like people are working in groups (without much thought to interactions) rather than teams (where interaction and expectations are more transparent and planned). As Brewer unearths in her studies and surveys, precious little is being done within companies to prepare employees to function at high levels when working on such teams, no matter if they are in the same room or across the globe. At universities, students are plopped into groups and are expected to work like a team with little or no guidance from their instructors/mentors on *how* teams actually achieve good work habits.

Thus, a book like Brewer's can help shed some light on how to function well in teams (international and otherwise) and how to do so in virtual environments. Necessarily, this book is about “big” ideas of functionality; it is not a how-to for working inside specific, branded software suites because those will change in the blink of an eye. Rather, Brewer walks us through how to think about our options, maximize the potential when working online, choosing the best tool kits, and realizing how to see what works and what needs to be tweaked.

When this book series began, we were looking for an author who produces a book about such issues, and here it is. The series has a mandate to explore areas of communication practices and application as applied to the engineering, technical, and scientific professions. Including the realms of business, governmental agencies,

academia, and other areas, this series has and will continue to develop perspectives about the state of communication issues and potential solutions when at all possible.

While theory has its place (in this book and this series), we always look to be a source where recommendations for action and activity can be found. All of the books in the fast-growing Professional Engineering Communication series keep a steady eye on the applicable while acknowledging the contributions that analysis, research, and theory can provide to these efforts. You will see Brewer's active synthesis between on-site realities and research coming together. There is a strong commitment from the Professional Communication Society of IEEE and Wiley to produce a set of information and resources that can be carried directly into engineering firms, technology organizations, and academia alike.

For the series, we work with this philosophy: at the core of engineering, science, and technical work is problem solving and discovery. These tasks require, at all levels, talented and agile communication practices. We need to effectively gather, vet, analyze, synthesize, control, and produce communication pieces in order for any meaningful work to get done. This book contributes deeply to that vision for the series.

**Traci Nathans-Kelly**  
*Series Editor*



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# Foreword

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## **The Global Context for Virtual Teams: Re-thinking Collaboration in the Modern Workplace**

Twenty years ago, people thought of the workplace in terms of brick and mortar structures bound to specific, geographic locations. It was a time when collaborating on projects meant individuals met in a particular, physical place to exchange ideas, develop schedules, and assign tasks. It was a context in which factors of distance greatly dictated who could participate in group projects, how, and when. Under these restrictions, involvement in international projects was a relatively rare process generally reserved for a small number of individuals fortunate enough to work for larger, multinational organizations.

And then came the age of the Internet, and all of that changed . . .

Today, employees working for almost any organization can participate in international projects and collaborate with overseas colleagues frequently and regularly. Today, global Internet access means an organization that has any sort of online presence is inherently in contact with a greater, international audience—whether intended or not. In fact, the modern business climate is such that organizations almost need to think globally and focus internationally to remain competitive. Failure to do so brings with it the risk of being beaten out by a competitor that could be located, literally, anywhere on earth. And as global online access continues to increase, this situation will only become more prevalent—and the need to think internationally more imperative.

Within this context, the nature—and the idea—of teams has changed dramatically. Gone is the notion that factors of physical proximity dictate who can—and cannot—participate in work groups, development teams, or project activities. In fact, converging economic, technological, and geopolitical factors have led to a new model for work and a different understanding of the workplace. Today is the age of the international virtual team. And as communication technologies evolve and global online access spreads, participating in such teams will increasingly become a part of the average individual's work routine.

As with all things new, this situation brings with it different rates of adoption during a period of trial and error. It is a time when individuals and organizations explore expectations and approaches for using various media to reach out to and collaborate with colleagues, coworkers, and even clients located in different nations and regions. During this period, there is much to lose, not only in terms of time and money, but also in terms

of opportunity. For this reason, resources that provide strategies for working effectively in and successfully managing globally-distributed virtual teams can be invaluable.

*International Virtual Teams: Engineering Global Success* is such a resource.

By presenting a focused examination of the new nature of work in online contexts, *International Virtual Teams* provides one of the first systematic and in-depth analyses of globally-distributed working groups that collaborate via web-based media. In so doing, this text can serve as an ideal roadmap for navigating this new environment in an informed manner that contributes to our understanding of and use of these relatively new entities. The analyses, ideas, and approaches covered in *International Virtual Teams*, moreover, offer insights that can be applied to the effective creation, use, and administration of global virtual teams in a variety of contexts—corporate, governmental, educational, civic, and social.

The more barriers between the physical and the virtual world continue to blur and blend, the more participation in groups and teams will involve the straddling of those two spheres. To do so in an informed manner will be the key to success. *International Virtual Teams* provides us with the means needed to unlock the potential of this new context. In so doing, it provides us with a mechanism for thinking of and participating in human interactions in original and exciting ways. It also provides us with a guide for exploring the new nature of human interaction, new concepts of group dynamics, and the ever-evolving idea of the workplace in the age of global interconnectedness.

And so, the journey begins...

**Kirk St.Amant**

*Professor of Technical and Professional Communication  
and of International Studies  
East Carolina University  
Greenville, NC*

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# Preface

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A *virtual team* is one that does much of its work across distances facilitated by technology. As Kirk St.Amant notes in the foreword to this book, we are now working in the Age of the International Virtual Team. These cross-cultural teams provide the scaffolding for the communication of engineering professionals worldwide—within and between organizations of all kinds. The success of many organizations depends on the success of these teams.

While international virtual teams have much in common with face-to-face teams, they also have some significant differences. These differences are due in large part to virtual team members' working at a distance across cultures *and* to communication being moderated by technologies. Serious challenges exist in this context: (1) international virtual teams support much of global workflow; (2) international virtual teams differ in many of their characteristics from face-to-face teams; and (3) very few organizations provide any formal, effective training to prepare their people to work in these teams. The potential for challenges presented by this three-part context is not difficult to discern: organizations have a heavy investment in a type of communication for which many engineering professionals are not well prepared.

These professionals need processes and tools to help them effectively create, maintain, and use international virtual teams. The content of this book can help. It provides a rich set of processes and tools for creating, maintaining, and using international virtual teams. It is specifically written for an audience of global engineering professionals, novice to expert. Because of the focus on *global* engineering professionals, processes and tools are explained in detail with the assumption that the starting level of knowledge will range greatly across the globe. Included in this audience of "engineering professionals" are practicing engineers, managers, educators and trainers, human resource professionals, military service officers, and students.

The processes and tools presented here are based on extensive primary and secondary research as well as the author's experience in virtual teaming. Perhaps most notably, over 70% of participants in the primary research projects are international engineering professionals who work outside the United States. You can have confidence in the discussions, methods, and ideas presented here because they are based on evidence from three sources:

- a survey of engineering professionals

- seven case studies of professionals who work in virtual workplaces
- information gathered and analyzed by many researchers in virtual communication

*Basing the information in this book on empirical data and my original research means that I bring you reliable information that is focused on the most current international engineering practice.*

Most of these engineering professionals are overworked and short of time; thus, this book delivers communication strategies based on how engineering professionals really work in virtual teams. This practical guide includes case studies, strategies for success, and reports from the workplace as well as current trends, problems, and solutions. Two of the most powerful tools presented in these chapters are metacommunication and patterns.

Use the strategies in these pages to create, manage, participate in, and train others to work in effective international virtual teams. With these strategies, your organization will be able to respond successfully to inevitable changes in communication technologies and the global marketplace. Ultimately, effective virtual teams are able to collaborate in ways that bring success to their organizations.

**Pam Estes Brewer**  
*Mercer University*  
*Macon, Georgia*

**Please note:** *The definitions provided throughout this book are used as noted to provide a common and usable understanding of concepts that are important to working in global virtual teams. Many of these terms have complex definitions that vary with application.*

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# Acknowledgments

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This book is the culmination of good work by a great many people.

I wish to extend my thanks to Traci Nathans-Kelly, my series editor. This is a better book due to her ideas. Thanks, too, to Wiley-IEEE and Mary Hatcher for their support of my work and the work of this series on professional communication. And though I don't know all of the reviewers who worked behind the scenes, thank you Elizabeth Buchanan et al.

While working on this book, I moved from one good school to another—Appalachian State University to Mercer University. I have colleagues to thank at both institutions. Thanks to Nita Matzen, Alanah Mitchell, Rob Sanders, Paul Wallace, and Dave Wood for the opportunities to collaborate across disciplines. These colleagues work outside the box, a necessity for knowledge creation in an interdisciplinary age. Thanks also to Tony Calamai and Jim Fogelquist, and the Office of Research.

My new professional family in the Mercer University School of Engineering has been generous with their support. Thanks so much to Helen Grady and Susan Codone. And a special thanks to George Hayhoe who offered his expertise as a technical editor. He remains one of the best editors with whom I have ever worked.

Over the course of many years, I have worked with international colleagues and students on virtual team projects for the classroom. Each and every one of them opens a classroom to the world of experience. This is no small task. Thanks to Yi-chuan (Jane) Hsieh, Li-Hwa Hung, Annie Martirosyan, Jiann-fa Yan, and Matthew Rockall. I appreciate also the help of Jesse Lutabingwa for opening international opportunities. Among the students who have worked with me, let me thank Matt Prater, my research assistant at Appalachian State, and Aaron Brantley, a Mercer University student who gave me the idea for the cover art.

It seems that whenever I reach out to colleagues, their generosity amazes me. Thanks to colleagues who contributed success strategies and other expert elements to this book: Craig Baehr, Ed Brewer, Kit Brown-Hoekstra, Terry Holmes, Nita Matzen, Alanah Mitchell, Charlotte Robidoux, and Kirk St.Amant. And thanks to my many colleagues in the Society for Technical Communication.

Finally, I'd like to acknowledge the many engineering and communication professionals who participated in my research studies. Your experience contributes greatly to the practical strategies presented in this book.

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