Case Study Approach: Examine these six GSD factors and the effects on team performance (efficiency, delivered quality, and innovation) from deploying collaboration tools.

Investigation: Identify and measure GSD (Global Software Development) collaboration needs of ABB project teams, current tool usages, and available collaboration tools and paradigms.

Problem: How can the impact of collaboration tools on globally distributed software development teams’ efficiency, quality, and innovation be measured?

Key distributed development issues: are compounded in global development by:
- **Communication** – Language differences
- **Trust** – Cultural differences
- ‘**Coordination over distance**’ – Time zone differences

Survey current practice in measuring collaboration among software teams
Use GQM (Goal—Question—Metric) to define relevant metrics for actual GSD collaboration effectiveness and issues, as well as project outcome measures
Take before-and-after measures of GSD projects to assess the collaboration needs of project teams, and the impact of a collaboration tool
Focus on planned and unplanned communications, task management, and artifact management for specific development

Development of an online Distributed Meeting Questionnaire and a Structured Survey questionnaire to guide project interviews
Benchmarking studies and interviews of completed and ongoing GSD projects
Identification and execution of tool experiments focused on specific:
- collaboration needs and development activities
- patterns of geographic distribution of software project work
- combinations of cultural or language differences

Preliminary Conclusions and Future Work: On defining and applying relevant and useful GSD collaboration metrics

- While task management and artifact management are universal to all teams, software-specific tools for managing tasks and artifacts can add value
- Measuring collaboration tool impact on a team requires careful isolation and analysis of many factors that can affect project outcomes
- Measuring intermediate team characteristics (e.g. trust) is difficult, but useful towards choosing suitable tools and for assessing their impact
- For more info: http://gsd.agileteams.com