



**PAN GLOBAL BUSINESS SOFTWARE DEVELOPMENT:  
A CASE STUDY OF GOOGLE WORKSPACE**

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**INTRODUCTION**

Google Workspace was a pan global business software product, that was launched by Google to face the challenge of Microsoft Windows. It included every necessary business software and presented new challenges to Microsoft Windows. The case, in a broad way, made the discussion of the road to success of Google Workspace, and retained the top spot in the global business software market. The results demonstrated how the product of Google, managed the global business within the scope of practice. The geographically distributed business software package of Google Workspace provided the advantages of access to worldwide talent, increasing capacity, cost savings, and the ability to tailor software products to geographically specific markets. This paper presented a case study of the recently launched Google Workspace, to understand clearly the specific challenges for managing the pan global business software development package, across multiple organizations, work sites and cultures. The case study was an addition of value to the research on pan global business software development project, by reflecting on the theory found in the literature, and relating it to the project. The results of the case study shared the practices of Google in managing the pan global business software development, and enabled other organizations to gain knowledge from Google's unique experience. The recent projects of Google Workspace had included Google employees and vendors, located within the United States, and also locations, outside of the United States, including China, India, the United Kingdom and Canada.

## **AIMS**

The case study on pan global business software development process was having its own objectives and aims. These included :

- a) To reflect on current pan global business software development for guiding further research
- b) To expand the ability of the researcher and the practitioner to raise intelligent queries for contributing to further success in pan global business software development
- c) To investigate and describe the experience of working on a geographically distributed software project
- d) To identify the tools of technology that may be used to help coordinate common pan global business software development activities

The case study was further intended to address the following challenges in the pan global business software development :

- a) To ensure that the incurred cost never outweighed the benefits due to mismanagement
- b) To ensure that there was orchestration of tasks requiring to accomplish the objective
- c) To ensure that there was adherence to control of specific requirements, like budgeting, scheduling and maintaining quality standards
- d) To ensure that control and coordination were mediated by communication, for promoting a better understanding between the concerned associates

The benefits, as listed above, often acted as a mirage, and not achieved to their full capacity. In the event of indiscipline in management of offshore relationships, the organization squandered the time savings and the cost that it hoped to gain, and also faced problems like mismatches between deliverables and expectations, as well as increased costs.

## **METHOD**

The case study was based on an hour-long video-conferencing with the Lead Data Scientist and his team of Google Workspace. The process of discussion was recorded for analysis and review. The conferencing comprised of a series of questions for probing the different aspects of managing the pan global business software development. There are some follow-up investigating questions, that led to the central question of the case study, that was, 'How did Google manage the competition with the release of the Google Workspace software across multiple geographic locations and corporate cultures where Microsoft Windows was a part of life?' After the completion of the conference, the notes of the discussion were analyzed for the common themes and recorded in the literature. The scope of the video-conferencing focused on the release of the pan global business software package of Google Workspace. The primary data comprised of the answers of the questions asked during the video-conferencing process. A few questions were mentioned below for the purpose of understanding the video-conferencing process :

- a) How did you define and manage the project requirements?

- b) Did you face logistical issues in managing this project?
- c) How did you prepare for and manage cultural differences?
- d) What were the project-management and communication tools that you used?
- e) How was the communication facilitated?
- f) How was the project planning and tracking managed?
- g) How did you decide to position your offices across the globe?
- h) What was the difference between Google Workspace project and other projects?
- i) How did you accomplish the software design?
- j) Which software development processes did you use?

By studying empirical literature, the current trend was revealed in the practices, that were implemented for the purpose of mitigating the risks involved in the pan global business software development. Smite et al had published a systematic review on the state-of-the-art of empirical studies in the development process, between 2000 and 2007. A similar search strategy, as mentioned in the review, was extended in the case study, to make sure that the recent developments in challenges, practices and tools were included. The databases used for tracking the review are Compendex, IEEE, Xplore and Springer Link. The search string was used to find the empirical studies in pan global business software development.

In addition, the secondary data comprised of the necessary information, that were collected from the internal e-information website of Google Workspace.

## **RESULTS**

Figure 1 represented the typical pan global business delivery model, comprising of three primary

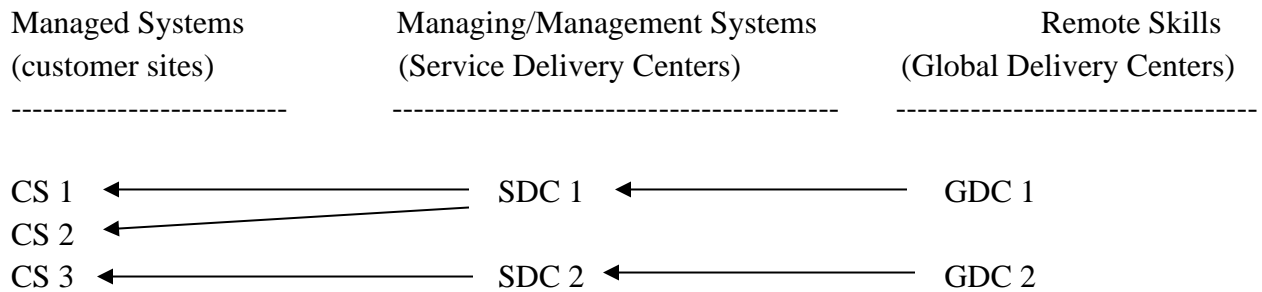


Figure 1 : Pan Global Business Delivery Model

components, namely, managed systems, managing systems, and remote resources. The managed systems represented applications, networks, servers and business processes, that a service provider managed, on behalf of its clients. These were managed on a round-the-clock basis, by Service Delivery Centers, via managing systems. The remote resources formed a network of Global Delivery Centers, that received workflows from Service Delivery Centers, and performed the designated tasks. The most salient feature of this model was that the components could be established in different geographic locations. The universal use of the software tools of Google made the orchestration of tasks of Google Workspace simple, and created process clarity. Google used their shared toolset for guiding and defining shared processes across the organization. Google

Workspace had changed their software development process to an agile process, that proved to be the most significant logistical issue, where everybody was trained about estimation---what it meant and building the right tools. The hybrid model, created with agile, made the process highly beneficial for continuation and implementation. Google Workspace managed their distributed processes, like bug tracking, deliverable tracking and source control, through the Google software.

The program control was achieved through Google Workspace teams, managing the specifications, standards and metrics through Google, along with Google's culture of competition, that also played a major role in maintaining control. For a better control, Google Workspace measured the execution against plan. The delivery was made against the metrics that were used for measurement. Between Google and Google Workspace, the only requirement was continuous negotiation. Both were trying to do the best for the customer. Both had their own metrics, that they were trying to reach.

The Google Workspace teams extensively used the advanced communication technology offered by Google, under the features of Gmail that included Chat, Meet and Rooms, that facilitated synchronous and asynchronous communication with knowledge sharing. For Google Workspace, the common language was English, that made communication simple, and possible, between distributed teams, without translation. The culture of Google ensured that any cultural difference permeated through the existing culture.

## **DISCUSSION**

The strong culture and the ubiquitous toolset of Google were the decisive factors in supporting the pan global business software development of launching Google Workspace. The leveraging of resources within Google, made the pan global business software development cost-effective. The overseas resources of Google conformed to the culture and toolset. The Google-engrained culture, along with the consistent workforce, with long-term relationships contributed positively to the outcome of the launching of the new software. This alignment caused the reduction of the challenges of communication, control and coordination of Google Workspace, and enabled it to reap the benefits from Google. The expertise of the employees of Google Workspace in converting Tacit Knowledge to Explicit Knowledge through the daily reports, monthly technical reviews, management articles and traceability matrices, remained unparalleled in the market. The major solutions of the case study included :

- a) Modularization of cross-site developmental work
- b) Availability of large, skilled labor
- c) Improvement of effectiveness of Time-Zone liberalization
- d) Proximity to the market
- e) Reduction of costs of development

The hiring of developers in nations with low costs of living, reduced costs. It was possible to maintain a round-the-clock workday by handing of work from one site to another. It was also

possible to divide a project more quickly by spreading through parallel activities, that were facilitated by modular software design. If development teams were hired within an intended foreign market, there was improvement in end-product performance, understanding the skill of the native workers, and their ability to customize end-products to regional standards, adhering to cultural and linguistic norms. The advantage of Time-Zone liberalization, worked in a general way for the Google Workspace project, for instance, the build of overnight software testing in India and China, but it was impractical to make any attempt to minimize development time, through highly structured hand-offs. Google tried hard to use the Time Zones to their advantage, but project wide, the planned hand-offs, were not much profitable. It was cost-effective at the individual level of code reviews and testing.

The case study merely expanded the ability of the researcher and the practitioner to make intelligent queries about factors that contributed to the success of the pan global business software development. The findings of the study could not be generalized as the experience of Google Workspace was unique.

### **RECOMMENDATION**

It was necessary to research the values between geographically distributed offices, that most strongly contributed to an effective pan global business software development project.

The variables, such as, the number of geographic locations, the consistency of the workforce and the characteristics of the corporate culture, in a pan global business software development project, needed to be researched, as these affected the success of the projects.

The areas where the practice of Google Workspace and the theory of pan global business software development, diverged, needed to be further researched. The relationship between successful pan global business software development programs, organizational culture and processes of program management needed to be focused in future research.

**TEACHING NOTES**  
**ON**  
**CASE STUDY**

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**SYNOPSIS**

Pan global business software development makes an impact when giant software organizations launch new products, that are intended to become a part of our daily life. A product of Microsoft, namely Microsoft Windows, is one such product, that is found with every user of software. Google, the other high-performing software organization, has launched another advanced product, namely, Google Workspace, that is claimed to be better than any other software product in the market. The case describes the investigation and the clarification of this launching event, that took place. The investigation lasted over a few days, and pieced together logs of previous activities, to identify the launching and locate the geographical positions of the launching. It is hoped that Google returns to its prior safe condition and decides what tasks must still be completed to validate the systems to enjoy the position of leadership in the market.

**TARGET AUDIENCE**

The case study is designed for undergraduate or graduate business class, that includes students with varied technical and business backgrounds. The case supports discussion on managerial and technical issues of Operating Systems software in intra and inter-organizational systems. For students with technical background, guidance is provided for enhancing the technical content of the discussion. For students with business background, guidance is provided for enhancing the understanding of managerial issues in ensuring reliable Operating Systems software.

## **TEACHING OBJECTIVE**

The case study deals with the following primary topics:

- a) Technical activities---the case considers aspects, such as, comparison of different Operating Systems software, and digital marketing of software products
- b) Incident response, referring to the activities undertaken by an organization, during or immediately following the launching of a new product
- c) Governance, related to control and communication mechanisms, to prevent any threat to the organization during the launching of a new product
- d) Unique opportunities and challenges, associated with ensuring reliable Operating Systems software, in the context of high-complexity inter-organizational culture.

The specific teaching objectives are:

- a) To provide details of the launching of a new Operating Systems software, including explanation of some specific steps taken to gain advantage over competitors
- b) To provide students with an understanding of how organizations prepare for and respond to launching of a global business software development product
- c) To develop students' skills in applying digital marketing techniques and assessing governance considerations related to Operating Systems software
- d) To challenge students to consider the complexities of ensuring reliable Operating Systems software, and in the context, consider the intra-organizational dependencies

## **CASE ANALYSES AND TEACHING PLANS**

The following questions and their analyses are specific to the case and help place students in a position to analyze all the factors:

- a) What are the limitations of the case study on Google Workspace? (20 minutes)

The case study on Google Workspace is based on the experience of a practitioner of pan global business software development to guide further research. This research does not prove anything, but expands the ability to make intelligent queries about factors contributing to success. There is always the chance of information, not being clearly interpreted or communicated, when a case study is based on a single interview, performed by a single researcher.

Instructors may divide the class into groups, each focusing on a particular category of stakeholders, facilitating a deeper analysis regarding their concerns about critical information and other resources, and a student from each group may make the delivery.

- b) What are the implications for management of Google Workspace? (20 minutes)

The management requires mature business and software processes, with universal use of control and coordination software, promoting a culture where informal communication may thrive. While analyzing the operations, managers of geographically distributed software projects, need to keep in mind the three areas of coordination, control and communication, and ensure that the three areas are served well by employing human resource strategies to establish a common culture between distributed offices.

Instructors may organize a debate among students about the relevance of coordination, control and communication in the launching of a pan global business software product, to ensure the understanding of the students.

- c) Do you think that the organizational culture is important for the success of Google Workspace (20 minutes)

A strong culture with shared values is important in any organization. It plays an important role in helping distributed teams coalesce. Google's culture is meritocracy, where employees are encouraged to question everything, and there is continuous challenging of assumptions, in pursuit of new and improved ideas. The shared culture of Google at geographically distributed offices contributed to value congruence. The value congruence between organizations and individuals, is related to motivation, satisfaction, work stress, anxiety, ethics and commitment. It is always practical to assess the overall compatibility and fit, when evaluating the partner offices.

Instructors may assign a role play for the students, with the students being assigned the roles of offices in Africa, Asia and the United States.

- d) Wrap-Up (15 minutes): Instructor may summarize the key points from the discussion and provide the epilogue.

In the booming era of pan global business software development, Google Workspace is launched by Google. It is established that the business software package is more advanced, with better control and communication features, than the Microsoft Windows software package. The success relies heavily on interpersonal skills that are often more critical than the technical skills.

## **REFERENCES**

1. Anderson, J. & Wood, R. (2002). Seven management lessons from Microsoft. *Business Strategy Review*, 13 (3), 28-33
2. Cho, J. (2007). Globalization and global software development. *Issues in information systems*, 8 (2), 287-290
3. Cusumano, M. A. (2008). Managing software development in globally distributed teams. *Communications of the ACM*, 51 (2), 15-17
4. Moe, N. B. & Smite, D. (2008). Understanding a lack of trust in global software teams : A multiple case-study. *Software Process : Improvement and Practice*, 13 (3), 217-231
5. Posner, B. (2010). Another look at the impact of personal and organizational values congruency. *Journal of Business Ethics*, 97 (4), 535-541