

NPI Workgroups Management System

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Abstract — *Organizations with virtual teams and its resources located in different geographical locations have a growing concern on the impact of turnaround time and work-life balance. As a result, the main challenges are the coverage due to the gap in time zones, consequently assigning work to the available resources at the time. This limits the ability of others to get the desired exposure and gain expertise to collaborate and at the same time not having a balanced work bandwidth. The work inventory was analyzed in an effort to balance the work for all employees in the virtual teams. It was found that by deploying a workgroups management system for the NPI team, the workload was evenly distributed between the groups and each individual, but also providing the opportunity to collaborate as a single unit. This not only improved the turnaround time, but it also helped balanced the work-life conditions of the team as a whole.*

Key Terms — *Job Rotation, Subject Matter Expert, Virtual Teams, Work-Life Balance*

INTRODUCTION

Hewlett Packard Enterprise (HPE) is a global IT company. It delivers the best in class “software defined” products for enterprise companies. HPE owns one of the largest supply chain organizations in the world. All of the supply chain resources are located across the world to support global fulfillment. Within the software supply chain, New Product Introduction (NPI) Engineers are a team located across the Americas. This is what is commonly known as virtual teams.

Working with virtual teams provides its own set of challenges. There is the gap in time zones impacting turnaround time. Also, there’s unbalanced distribution of workload impacting work-life balance, due to the need to assign incoming work reactively as the resources are

available or online. As a consequence, overworked employees have limited bandwidth for training and development. This also brings the gap on availability of subject matter experts within the engineering team.

The NPI Workgroups Management System project goals were to reduce overwork conditions to improve quality and work-life balance. Also, to increase backup coverage globally in order to improve turnaround time response. Additionally, it aimed to expand the knowledge, accountability, and exposure to additional product lines for all Engineers within the Software Supply Chain team.

CHALLENGES AND IMPORTANCE OF WORKGROUPS STRUCTURES

The idea of workgroups in a virtual team is a way for teams to effectively balance bandwidth and share knowledge. While this is ideal in a face-to-face environment, virtual teams pose a completely different set of challenges such as culture and time zone differences. In order to effectively explore the topic on workgroup management systems and understand how it has been deployed, a number of areas needed to be reviewed. These are: the challenges on managing virtual teams, what is a Subject Matter Expert (SME), job rotation effects, and implementing a healthy work-life balance. Trust and communication were identified as the main challenges for managing virtual teams [1]. However, it is pointed out that the implementation of technological tools such as Outlook and MS Teams will greatly help overcome these challenges in combination of an appropriate management style. These tools are essential; thus, the leader manages the team in an effective approach that includes everyone but also embraces the use of these tools.

An SME is defined as a specialist in specific competencies [2]. Within a workgroup, the SME

must have a competency in specific areas of the work which should consist of a mix of skill, knowledge, and experience. Hence the role in a workgroup is to be the go-to resource on a particular area.

Job rotation plays an important role to continuous improvement by the use of training and problem-solving ability [3]. Even though it is understood that job rotation is beneficial for problem solving abilities [3], there is a risk of productivity interruption. However, this risk is eventually eliminated as the learning curve diminishes, which essentially means required time spent on training.

It is widely known that working long hours is unhealthy [4]. While the intention of a workgroup is to promote a balance, it should be noted that it is not a one-time implementation and must be looked at periodically to ensure good results. The main goal is to ensure coworkers can achieve the appropriate level of balance to avoid the so-called work-to-family conflict [5]. Research has shown that employees working long hours go through greater conflict between their work and personal roles [5].

Understanding and integrating these concepts are of essence to create and implement a successful workgroup management system. Understanding that a workgroup pertains to a teamwork-oriented culture, it is relative that establishing an appropriate structure that thrives on collaboration must take place. With an appropriate set of tools and skills a workgroup will succeed and ensure that those skills are learned by all of its members.

METHODS FOR MODELING WORKGROUPS

Once the project kicked off, the team proceeded to execute the established project phases. These phases are known as Analyze, Design, Development, and Deploy Phases. Each phase had its own time period for them to be completed between the established project timeline, which was reviewed weekly as part of the organization's project governance guidelines.

Analyze Phase

During the Analyze Phase, the project team started assessing what the work inventory was for each engineer within the software supply chain team. This was accomplished through the use of one-on-one meetings with each engineer and looking into the team's project tracker tool. This provided insights as to what the employee bandwidth was at the time of analyzing the work inventory.

When focusing on the engineers with the higher work inventory, the team noticed right away that Engineers in specific geographic locations had more work than the others. While this proved that a better distribution needed to be done, it also uncovered the gap in knowledge because of the unbalanced work distribution, which impacted the exposure and experience to those Engineers with less work assigned.

Design Phase

After analyzing the current work distribution data, the drafting of the workgroups was modeled based on three different aspects. These were individual's workload, individual's location, and products' business units. Several alternatives were drafted before a go-forward decision was made in order to start with the development phase.

Figure 1 shows how the team is distributed across the Americas. While each Engineer has their own workload, it was decided to prioritize location for the workgroups modeling to ensure coverage. This in turn made the team put business units as a supporting decision maker, but not essential as these were to be reassigned as the workgroups are deployed. However, it was highly considered that subject matter expertise (SME) must have coverage within each group. Table 1 details how many SMEs are within each business unit, which in this case is an even distribution which provided an opportunity to have SME coverage from all business units in all workgroups.

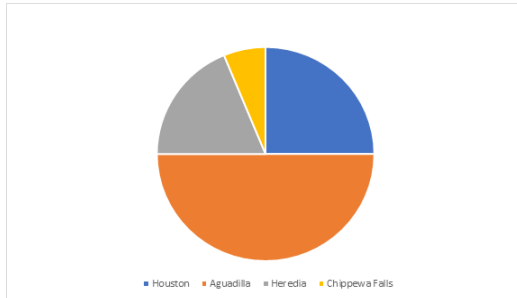


Figure 1
Headcount distribution

Table 1
Point Sizes and Type Styles

Business Unit	SME Count
Software	4
Networks	4
Storage	4
Servers	4

Development Phase

Following the design of the workgroups with the data used during the Analyze Phase, the team looked at additional opportunities to finalize a workgroup schema, but also keeping alternatives for future rotation opportunities. With that said, a workgroup schema focused on ensuring that each group contains Engineers from several locations was selected. The challenge following the selection of the final workgroup schema shifted to the required cross training to ensure Engineers are ready to take on new product lines, but also transition out others. To cover any gaps, the team planned cross training activities ensuring no current New Product Introduction where impacted nor delayed Supply Chain activities.

Deployment Phase

After the teams started gathering together as part of their routine sessions, designated team leads, which were part of the project team, captured metrics on turnaround time for tasks previously impacted due to time zone differences. Table 2 details the improvement with the use of workgroups on this area. As a result, having longer coverage of business hours, more resources were available to

consult, execute, and resolve issues or tasks at hand. This is considered a quick win since tasks are now taken on and completed faster, without impacting quality. Keeping track of the metrics and performing a periodic analysis is also essential to understanding how and when workgroups rotation may be required to keep consistent results.

Table 2
Turnaround Time Improvements

Task	Pre-Workgroups	Post-Workgroups
Customer/Factory Elevation	3 days	1 day
Bill of Material Setup	1 day	0.25 day
Pilots Testing	4 days	2 days

RESULTS OF WORKGROUPS MANAGEMENT SYSTEM

The deployment of the workgroups proved that several aspects have had an impact on productivity, quality, and overall coverage. The geographic distribution had an impact on how the individuals in the group perceive the cultural differences and adapt to work together as a team. With the workgroup's integration, there is a positive outcome. Most workplaces are integrating cultural diversity and inclusion into their operations. This is of most importance and observing how the teams absorb and value it, shows how beneficial this kind of team integration is.

Getting out of the comfort zone shows how individuals adapt and look into further opportunities to learn more into their role and become experts. This closes the gap on lack of knowledge to execute individually, but also to serve as a mentor to others, such as new hires.

Even though the teams are intended to mature so the individuals can get comfortable with the workgroup schema and its members, periodic reviews show how knowledge has expanded. As a result, the team sees how the workload is now balanced. While it could be seen that others still have a little more work than others, periodically this can be reviewed and look for work or job

rotation. This has provided all individuals with exposure to strategic areas and upper management. Hence, for those with higher aspirations, the workgroup schema also opens the door to be able to execute in opportunities that otherwise they would not be able to do before.

Getting all of the results together, it must be stressed that the people's manager roles are unaffected. Leaders must keep having one-to-one meetings and staff meetings among other relevant activities. This is essential to keep individual contributors motivated and reminded that even though they are now part of a sub team, the team as a whole still exists and is accountable as a unit on their roles and responsibilities. Having in mind that this is a virtual team, there are a number of engagement strategies that can be employed. Some general guidelines for helping a team feel valued and keeping them engaged and productive while working virtually and remotely are:

- Be clear about goals and expectations.
- Work at improving lines of communication.
- Be as flexible as possible about working hours.
- Encourage connections among team members.
- Communicate regularly and check in frequently.
- Empower them to make their own decisions and to communicate and implement new ideas.
- Encourage knowledge sharing among team members.
- Encourage calls vs. emails, considering turning on webcams for key meetings

CONCLUSION

Hewlett Packard Enterprise is a company that has worldwide presence, as a consequence, virtual teams are a necessity to ensure coverage accordingly. However, as these teams are located across many geographic areas it brings challenges impacting turnaround time and work-life balance. Consequently, subject matter expertise is limited, work gets assigned reactively, work distribution is not balanced, and training & development are limited to those with extra bandwidth.

The idea of establishing a NPI Workgroup Management System provided a way for managers with these challenges to reduce overwork conditions to improve quality and work-life balance. It also increased backup coverage globally to improve turnaround time response. Additionally, it enabled employees to expand knowledge, accountability, and exposure to additional product lines.

As these workgroups works independently, the teams have been able to collaborate as a single unit, but also increased knowledge and backup support. With this, the teams are now able to rotate product ownership, increasing confidence. Each individual opened up bandwidth for professional development to get exposure to work on projects, but most importantly it has evened out each member on workload to achieve a healthy work-life balance.

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