Best Practices in Outsourcing: The Case of Sprint

Case Study

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IAOP's Global Excellence in Outsourcing Award

Outsourcing Best Practices:
Sprint Process Improvement Initiative

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Sprint Overview

Sprint is a leading telecommunication, Fortune 100 Company with about $35B in annual revenue in 2012. Sprint serves over 54 million customers in the US in additional to its international customers. In the US, Sprint is the third largest provider of 3G voice, data and push-to-talk network technology nationwide. Sprint is also a leader in 4G LTE technology covering over 300 markets segments across the US. Sprint's global IP network reaches worldwide across 157 countries. Unlike some of its competitors, Sprint outsources 100% of products offered for retail purchase, and has done so for 20 years.

The Sprint corporation has won a number of awards including the – IAOP award for innovation in 2013, J.D. Power and Associates highest in satisfaction with the purchase experience among full-service wireless providers in 2011, 2012 and 2013, and the American Customer Satisfaction Index in 2013 as the most improved in customer satisfaction across all 47 industries during the last five years. Sprint was also ranked #3 in Newsweek's Top Green Companies in both 2011 and 2012.

Sprint has many business units, several are shown in figure 1 (Sales, IT, Care, Devices and Network). The business unit involved with this best practice is the Device Business Unit. The Device business unit is responsible for managing all phases of the product development lifecycle. Figure 2 provides detail information about the activities involved in the four phases of the device lifecycle (Product selection, Development &Pre-launch Testing, Product Launch and Post Launch Testing).

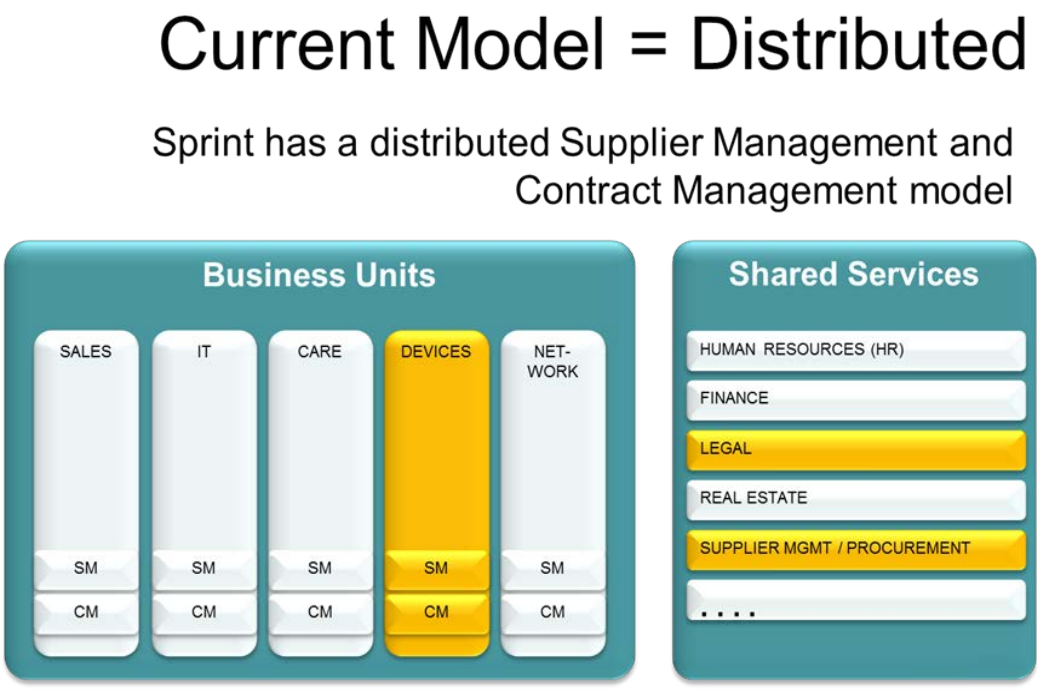

Figure 1: Sprint's Business Units (Case study is focused on Sprint's Device Segment)

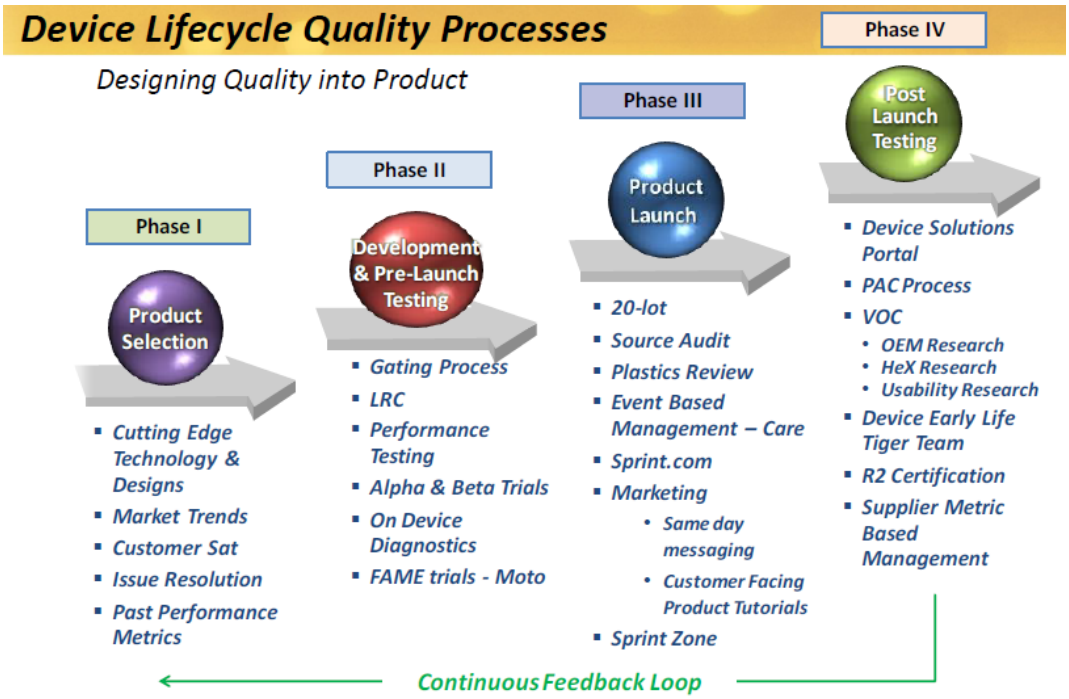

Figure 2: Device Lifecycle Quality Process at Sprint

Device Outsourcing and Life-Cycle Quality Issue

Sprint has always outsourced its device manufacturing to a number of suppliers. There are about eight to ten device suppliers at Sprint at any given time. One of the challenges with multi-sourcing is how to manage the multiple suppliers. In addition, Sprint needs to define performance standards that would apply unilaterally for rapidly changing technology to ensure that the devices from all suppliers meet certain quality criteria. The device development lifecycle is measured in three phases, Pre-Deployment, Deployment and Post-Deployment. Pre-Deployment is the process that manages and measures device development, testing, device certifications through technical acceptance and go to market. Deployment phase is the forward logistics components of receiving inventory and fulfillment into the sales channels. Post-Deployment are activities after the point of sale through obsolescence. Correlation analysis is conducted on Pre-launch performance metrics and thresholds and evaluated against the Post-Launch performance metric impacts to costs and customer experience.

> *Sprint has enjoyed a good working relationship with many of its suppliers but did not have an end-to-end, cross functional process that consistently measured device life cycle metrics with associated correlation and cost of quality analytics to evaluate the eight to ten device manufactures in a non-biased manner*– Donna Schnorf, Senior Manager Sprint Device Lifecycle

In 2006, Sprint began developing a program that manages each device lifecycle more closely. Although, prior to the new Device Life-Cycle that is currently used, Sprint did not have a cross functional set of metrics in place in order to measure device performance throughout the lifecycle and across their multiple suppliers. With the use of this new program, all aspects of the device lifecycle are measured and managed. Sprint utilizes internal process owners to collects data on a weekly/monthly/quarterly basis as appropriate to the metric being managed with performance statistics of each individual device. Sprint is transparent in metric management

and has automated the data sharing processes so there are no surprises going into the quarterly reviews. Sprint then aggregates the data at the OEM partner portfolio level and shares both the aggregate and device specific performance data with its suppliers through reporting on a quarterly basis., Each Quarterly Performance Review provides an Executive Summary that includes a blind stack ranking; suppliers can see how their portfolio of devices are performing in comparison with the device portfolios offered by their competitors within the Sprint group of device original equipment manufacturer (OEM) partners.

Device Outsourcing management Best Practices

Below are a number of best practices put in place by the Device Life-Cycle Quality Team. They are used to measure the quality of the devices throughout their life cycle. The Manager of the Device Life-Cycle Quality team was Donna Schnorf. Donna is responsible for the daily operation activities of the supplier assessment process team and tools and Sean Heston is Donna's current manager.

I. Have a Great Team that is also Comprehensive

The team includes personnel from top to bottom within the device business unit and matching support levels from each Partner. Each participating team member focuses on specific aspect of the device lifecycle. The team has a vice-president sponsor both on the Sprint side and the supplier side. Senior executives from both sides are actively involved in the process. The senior level team members meet quarterly, the director level meets monthly, and the rest of the team meets weekly or biweekly dependent on metrics compliance.

The team is made of diverse groups of skilled people – from innovation and design to user experience and development members that focus on user interface (UI) aspects of each device and the constantly evolving operating systems (OS) and associated software updates, device certification, go to market strategies, to team members evaluating such things as customer satisfaction, device ease of use, functionality, new technology and applications, forward and reverse logistics, repair processes, environmental responsibility/sustainability and after launch quality. Approximately, 200 people (excluding our extensive Care and Sales teams) are directly involved in the process of improving the device portfolio, tablets, mobility and application quality.

II. Metrics

> "*Measurement is the first step that leads to control and eventually to improvement. If you can't measure something, you can't understand it. If you can't understand it, you can't control it. If you can't control it, you can't improve it*." – H. James Harrington

Sprint clearly understands the need for a structured quality process. The newly developed Device Life-Cycle quality process is based on Deming's economic model theory and Six Sigma principals. It has three phases and encompasses approximately 70 quality and process metrics. Sprint's team works closely in data collection with many functional areas within the device business unit to achieve the quality assessment goals. For example, the device testing group performs various types of analysis and testing on devices at each stage of the lifecycle (device certification, specifications, and alpha/beta/friendly trials). The logistics group manages forward logistics (receipt of inventory from customs into Sprint warehousing facilities and then into the sales distribution channels). The team also collects data from the service and repair groups for

buyer's remorse when still in warranty, and out of warranty processes on all devices that have been sent back. In addition, they also collect data on returns and exchanges, complaints for hardware and software defects, as well as calls to customer care agent, and the remanufactured device process. The network performance group supplies the team with voice and data blocks and drops performance of the device on Sprint's live network (actual customer experience). The team collects data and continuously tracks reasons for drop calls, what devices are involved, and what resolutions took place. Each time a device is returned, the team captures the data from the care agents. One thing the team has done extremely well is collecting relevant and timely data from multiple sources to conduct a detail statistical analyses every stage of the device process. Different types of analysis can be started as soon as a device is selected, and prior to pre-lunch. Figure 3 below shows the new quality metrics dimensions at Sprint that allow Sprint to compare OEM portfolio quality consistently and unilaterally without bias.

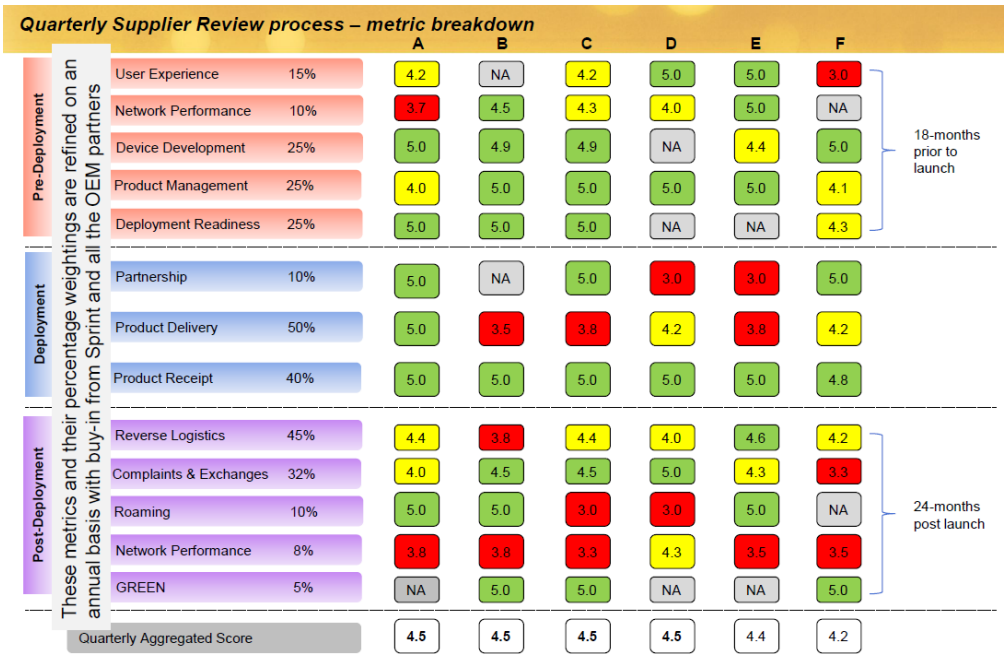

Figure 3 Sprint Device Life-Cycle Metrics

III. Tools

Several tools were used in the process of developing a device quality lifecycle. The most important tools that support the process are the metric scorecard summary, the face to face Quarterly Performance reviews and the Voice of the Customer database. Sprint needed to understand customers' behavior, preferences versus triggers for what device attributes drove a Return/ Exchange (r/e) activities versus what caused an annoyance resulting in a retail store visit or call to customer care. To create the Voice of the Customer, Sprint partnered with their device original equipment manufacturers (OEMs). Both parties gain significant insight into the customer's prioritization of performance metrics by sharing the data in the Voice of Customer database. That candid customer feedback is also used in the early features/functionality for the next generations of products. Data analysis reporting is transparent between OEMs and Sprint. This is an important practice as both client and the provider team-up to co-develop/co-fund the Voice of the Customer database.

"*What we learn quickly, we can apply. We can't be successful without them. The development opportunities are VERY compelling to OEMs*" – Sprint Team member

IV. Use a Third Party When Necessary (Advisory, Research, Legal, etc)

At the beginning stages after a new product launch, it is beneficial to identify a customer feedback mechanism that captures and prioritizes from the customer view what Sprint could have done to prevent the return/exchange. Within 15 days of any return/exchange the customer recall is highly accurate. This type of data collection is completed by independent third-party research service providers who are contracted to do so by Sprint and the original device equipment manufacturers (OEMs)/suppliers. Data collected by the research company is available to the quality team and the suppliers. Therefore, from as early as a device's initial launch date, the team can see trends of return/exchange, and within two weeks after launch the team can conduct several statistical analyses based on real data from the customer perspective and prioritize the appropriate changes, if any, necessary to course correct. Sprint and the supplier can then respond and update the manufacturing processes, marketing messages, training and sales presentations, and can immediately take corrective actions when necessary.

V. Quarterly Device Supplier Reviews

Sprint has built into the process a quarterly review meeting with the device suppliers. At the quarterly meeting each aspect of the device lifecycle is reviewed. Every supplier is measured using the same criteria and data sources provided within Sprint, where none of the data is partner self-reported. Items are measured for Pre-Deployment, Deployment and Post-Deployment. Once all the data is compiled, a Quarterly Aggregated Score is created for each device manufacturer (scale of 1-5). The various metrics have vastly different units of measure, days, percentages, failure rates, per unit or per occurrence costs, number of calls, variation deltas, drops, blocks, attempts, etc. The model assigns a value based on the R/Y/G status of the individual metrics, then functional area and section weightings are applied and the overall portfolio performance aggregated. The weightings are determined based on financial and customer experience impacts. The device manufacturers are then stack-ranked. (Additional proof points are available). Each supplier is able to see where they stack-rank among their competitors, however, the names of their competitors are removed and disclosed anonymously as A-G for confidentiality. Figure 4 presents an example of how device manufactures are stack-ranked.

> "*The data is unilaterally applied without bias and with the same filters, Donna and her Team are able to establish a stacking ranking, where the suppliers could see suppliers A,B,C,D,E,F,G. They would only know which one they were but they would see where their competitors were at … [and can determine] what they need to do to achieve a higher [score] ...*" – Sean Heston Sprint Team

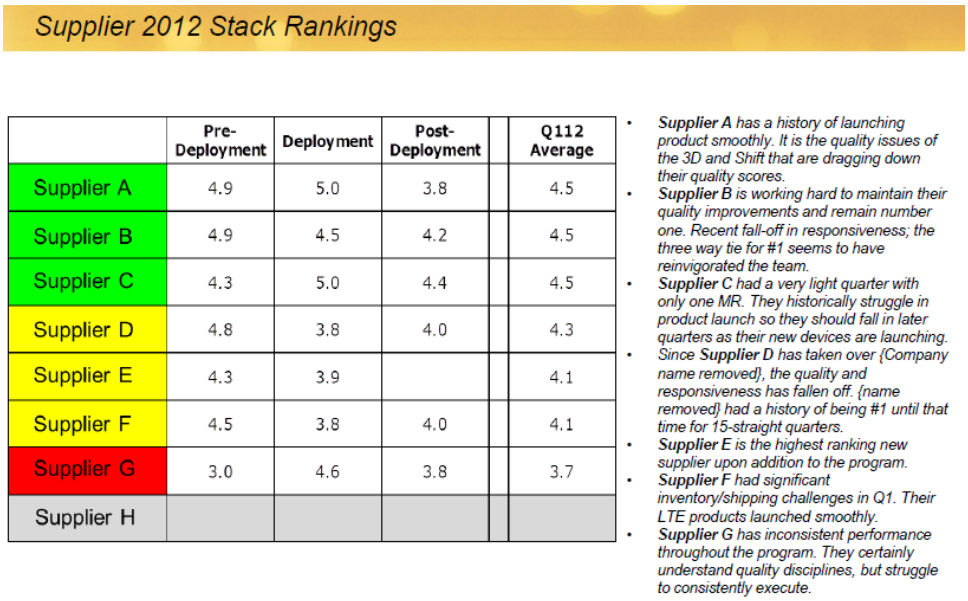

Figure 4: Device Suppliers Stack Ranking

VI. Process Driven Approach (Method)

> "*It were far better never to think of investigating truth at all, than to do so without a method.*" – René Descartes (1596–1650)

One of Sprint's best practices was to re-draw the device quality process starting with a clean and blank slate, re-inventing a cross-functional life cycle view into the process steeped in Deming and Six Sigma modeling and methods. Sprint began by defining the device life-cycle, and followed it up by defining inputs and outputs, process and product owners, stakeholders, and data sources. The device quality team later crafted the metrics and in many cases the databases for each owner on the Sprint-side. Sprint shared the new quality process with the OEM partners to get everyone on board with this new process. Not only did the suppliers agree to utilize the new process, but they also benchmark Sprint against their world-wide carrier base. The meeting is collaborative dialog between the partners sharing joint opportunities for improvements both for Sprint and the OEM Partner; Sprint was able to quickly identify specific areas they could continue to improve. Each quarterly review meeting has a section focused on supplier and partner successes and areas for improvement. This process was applied across all OEMs, and has been successful due to Sprint's commitment to relationship management with each and every supplier. In addition the team monetized the performance metrics to have that inherent cost quality. Every metric was tied back to Sprint corporate goals, customer experience, or decrease in cycle time or increase in productivity.

VII. Annual Auditing

It was clear from the beginning that the changes at hand were not just a single occurrence. The device lifecycle quality needs to be constantly reviewed and improved. Sprint collaborates with the OEMs for annual reviews and auditing for such things as business changes, process changes, and data-source changes. The models are audited annually. The metrics, performance benchmarks, best in class targets are all reevaluated and modified to meet the joint business objectives for Sprint and the OEM partners so they can continuously raise the bar. Like any new process, once implemented, some groups within the Sprint organization took a bit longer to

adhere to the required changes. For example, an additional business was added to the review process (see figure 1 above). Once current state baselines were established, a life cycle process was modified to allow for earlier incorporation into the testing and certification processes. Product development partnered with the new adopters and created collaborative and joint specifications and more robust test cases. . This type of internal collaboration naturally benefits Sprint resulting in better internal processes and decreased business silos. Joint collaboration between the OEM Partners and Sprint allows for a reduction in amount of discrepancies within the data comparisons. It also provides the OEMs an opportunity to suggest new or alternate metrics based on industry trends and changing technologies. Any changes are provided to the OEMs in advance of the change implementation to allow for performance modifications prior to the changes going active. The suppliers choose to participate in the Partnership Performance process willingly. Both Sprint and the Suppliers teams have at-risk compensation tied to rankings and performance of the devices to help drive and motivate higher quality standards.

VIII. **Relationship Management (partnership)**

The nature of the relationship between Sprint and the OEM device suppliers is more of a partnership than traditional outsourcing. Obviously, both sides realized that there was a correlation with device performance and their corporate brand standing relationships with the end customers. Consequently, this correlation translates to revenue through a lower cost of quality. If the relationship is maintained at a high level, everyone has something to gain.

Resulting Business benefits from this Effort

For over 20 years, Sprint has always outsourced 100% of its device manufacturing to a number of suppliers. The difference between the past and now is Sprint's device lifecycle quality process which was developed for and maintains its partnership with the OEM suppliers. As that there are multiple suppliers sharing information about device performance data for the preparation of stack ranking tables, it is important to maintain cooperation among the suppliers while subsequently withholding confidential information. Some of the remarkable benefits of this effort include:

a. Sprint reduced its return and exchange (r/e) rate by over 45%, which is at low rate of basic consumer electronics. In 2012, Sprint reduced its total cost of ownership (TCO) for Standard phones by 10% and their TCO for Smart phones by 30%. Over the 3-year lifespan of the program, so far, Sprint has seen TCO for Standard phones reduced by 40%, and the TCO for Smart phones reduced by a staggering 64%. The program utilized both Six Sigma and the Deming Model of Cost Quality. In this effort, Sprint chooses to utilize TCO alongside of ROI. This practice is recommended to other companies, since device portfolios are in a constant cycle of change and evolution.
b. The cost of implementing the program was under $500K and annual program maintenance cost is significantly less. Sprint surpassed the ROI in much less than 1 year. Over the past 3 years of the program, Sprint also lowered Churn (customer attrition) and decreased manufacturing issues year over year.
c. Device decisions are based on actual cross function performance, Sprint provided data and modeling based on Deming and Six Sigma principles. The program helps Sprint determine its next generation of devices, potential new device partners, and who will be selected when co-developing new devices based on current portfolio performance (quality). In addition, OEM suppliers featured in Sprint advertisements and promotions are chosen based on data

on quality of device performance. Co-development opportunities are based on current portfolio performance.

d. Sprint also presents to supplier partner with the best annual quality performance the Supplier of the Year recognition. The awards are created to celebrate success and create visibility in the local support office, the US Headquarters and also for the World Corporate office location overseas. Awards are also given to the most improved Partner, based on moving up in the overall stack rankings. And an Award to the partner who has decreased their total cost of quality by the highest percentage.
e. Sprint has defined minimum and best in class performance thresholds and total cost of quality benchmarks. If a partner is outside the appropriate performance ranges, they are provided an opportunity to course correct. If they remain outside the thresholds after a defined period of time, the remuneration process begins quantifying the costs of quality above the performance standards and presented to the OEMs for resolution
f. Through this process and in collaboration with the suppliers, Sprint developed an enhanced database that captures customers' feedback and prioritizes software and hardware modifications based on the customer preferences. Sprint and its suppliers now have an improved understanding of customer needs than ever before, and understanding customer needs goes beyond just fixing defects in devices. The best practices put in place by Sprint add a whole new dimension to "*customer satisfaction*".

Conclusion

Sprint's Device Business Unit has created a multi-supplier eco-system in one of the most competitive international industries – mobile devices and operators. Outsourcing works best when both parties stand to benefit from the effort. Sprint has developed a simple, effective, and cost-efficient device lifecycle quality approach that saves all parties involved millions of dollars. Sprint is considered a leader in the device quality lifecycle management and they have set a clear example that other companies should adopt and from which they can easily benefit.