Closed-Loop Servicing of Sony PlayStation®

Student & Supervisor Briefing Notes
Student Briefing Notes

The Case is structured around the decision Mike Nabarro needed to make in the 2nd quarter of 2006: which warranty service operation to put in place for PlayStation®3. Your task is to analyse the information in the case and:

A. Highlight the differences (and their impacts) between PlayStation®2 and PlayStation®3.

B. Propose and justify the best warranty service operation for the PlayStation®3.

To do this you are advised go through the following steps:

1. Review the information in the case identifying those pieces of information that are significant regarding the implementation the existing warranty service operations used for the existing suite of PlayStation® consoles. Ask: why are the cost elements different for different warranty service models?

2. Outline the advantages and disadvantages of the different warranty service operations outlined in the case. Ask: what are the major concerns for both SCEE and its customers?

3. Review the information in the case and identify significant factors regarding the warranty service operation that will need to be in place for the PlayStation®3. Ask: what things are different between PlayStation®2 and PlayStation®3 and what impact they have on running a warranty operation?

4. Formulate a proposed warranty service operation for the PlayStation®3, outlining the advantages and disadvantages of this model. Ask: how does my solution match against the answers developed from steps 1, 2 and 3?

End.
Supervisor Briefing Notes

Introduction
Mike Nabarro considered all the factors outlined below and decided to continue with the same remanufacturing exchange model. The most significant factors that needed to be accommodated were the inclusion of a hard disk with PlayStation®3 and its greater size (requiring planning for more storage and worktop space) and complexity (requiring more Call centre training for diagnostics and considerable retraining for the remanufacturing staff).

This briefing note is intended to develop and explain some of the data included in the case.

1. Finance
The case demonstrates that closed loop remanufacturing can be cost effective if well designed. Warranty claims are usually a business cost (although SCEE does allow customers to have out of warranty consoles repaired at a nominal fee). Therefore, reducing the cost of such an operation is very important.

Students should be directed to consider the data in Table 1 and why the costs differ.

Call Centre: this is almost the same whatever model is used as the primary function is to collect customer information and diagnose. The Central Hub Network cost is slightly higher as it will receive customer chasing calls.

Courier: the main difference here concerns speed and tracking. The Local Franchised model allows some customers to return and collect their own product. The Central Hub model however requires a courier to collect and return the same product as quickly as possible. This need for speed, together with the logistics to ensure the product is accurately tracked (to ensure the same product is returned), significantly increases the cost.

Repair (Labour): The Local Franchised model works with small volumes with one worker completing the whole job. The Central Hub and Remanufacturing Hub models allow for an economy of scale with batch working. By breaking the operation into smaller operations and optimising labour to suit each task, this cost is reduced. With the use of an exchange model the cost is further reduced as the same product does not need to be reassembled and tracked for return to the same customer.

Repair (Parts): This aspect of cost is likely to be the hardest for students to understand. When parts are ordered from China they arrive in bulk consignments. Therefore, the Local Franchiser model requires these parts to be “bulked down” and shipped in smaller quantities to each franchisee. The cost of separating, storing and sending these parts can often exceed actual value of the part. Therefore, central operations avoid the cost of this “bulking down”. The Remanufacturing model further reduces the parts cost by having certain parts repaired at a lower cost than that of replacement parts.

Central Overheads: The cost of organising, training and monitoring these different service models also varies. The management systems needed for fast and accurate return tracking make the Central Hub model the most costly.
Closed loop with remanufacturing can result in a ‘buffer stock’ that can be a source of extra revenue, albeit the revenue amount will be marginal. As 30-day returns are always replaced by a brand new product, these faulty products are returned to SCEE with no customer expecting them back. This forms a “buffer stock”. This stock can either be used to balance peaks in demand for warranty claims (such as after a seasonal peak in sales) or can be sold to new customers under a graded “remanufactured” label. SCEE sells in excess of 20,000 consoles each year as “graded sales”.

2. Service & Logistics
Waiting for spare parts can be a huge issue for service operations, particularly when spare parts for existing equipment is competing with parts availability for new production. Students are unlikely to appreciate this tension where service operations vie with the same company’s main manufacturing operation for orders to buy replacement parts. However, the case shows that a closed loop model with remanufacturing can offer an alternative source of compatible parts. This was a significant factor in Nabarro’s strategy.

Demand for service support varies both seasonally and with new product releases. To manage spikes in service demand flexibility of supply is necessary. Closed loop with remanufacturing also offers this flexibility. The 30-day “buffer stock” allows SCEE to respond immediately to these fluctuations in demand.

[NB: Students should be directed to Table 2 showing the huge volume of sales from PlayStation®2. The typical industry bench mark of 5% of consumer electronic product sales failing during warranty shows that from 2005 data, UK returns would have been 67,000. This should allow students to see the scale of the operation needed. Given that PlayStation®3 is physically larger than PlayStation®3 this should highlight the need SCEE had to prepare all partners for extra storage space and workspace.]

3. Customer Relationship Management
The single greatest challenge with Same Product Returned Models is managing the multiple customer interactions. A customer may call again in order to understand the progress of their repair and complain if a delivery deadline is not met. The Closed loop remanufacturing with exchange model requires a single customer contact point which (as well as being less expensive) significantly reduces the risk of customer dissatisfaction as they receive a replacement product at the time of collection.

[NB: Students may question customer satisfaction with receiving a remanufactured product rather than a brand new one. This can be a point of useful discussion. Under the terms of most warranty agreements the basis is usually repair or replacement if not economically viable. Given that remanufactured products are returned to an “as new” condition (and sometimes upgraded) students should consider how this might be a positive message to convey to customers. In addition, although not available for this SCEE Case study, other evidence suggests the quality of remanufactured products can be higher than new products. Students may wish to consider the reasons for this (which is due to the fact that remanufactured products have already been well tested and thus screen out hidden failures.]

If a customer is without a console for an extended period of time, there is likely to be an impact upon not only customer satisfaction but also ancillary product revenues (such as game software sales and the window for online sales). Closed loop remanufacturing with exchange can minimise this delay.
4. Knowledge Management
The use of third party outsourcing partners can make Original Equipment Manufacturers (OEM) beholden to them unless clear knowledge/asset ownership is kept. The case demonstrates the care and attention SCE has placed on ensuring they maintain knowledge/asset ownership and thus their bargaining positions with outsource partners.

Whilst much of this knowledge management is to control partner operations, SCE have also developed a tight system to prevent “rogue traders” from being able to offer repair services. Such “rogue traders” run the risk of providing poor quality or unsafe work which would damage the reputation of Sony’s international brand.

Flexibility in remanufacture is reliant on strong information management practices and routines. The case demonstrates that closed-loop operations can have good information management and allow for changes in demand.

5. Environment & Compliance
A closed loop remanufacturing service operation can help reduce the environmental burden of manufacturers. Whilst no formal studies have been made of the environmental impact of remanufacturing consoles, evidence from similar products suggests it is an environmentally sound operation. Students should be encouraged to read other literature (accessed via www.remanufacturing.org.uk) to see this evidence and consider its limits and usefulness.

As a faulty product is not replaced by a new one (where the new draws upon ‘virgin’ materials) there can be a saving of natural resources. Thus closed loop remanufacturing can help reduce materials, waste and energy consumption. In principle closed loop servicing can be used to promote a ‘greener’ image for an organisation. [However, it should be noted that it is only the out of warranty and remanufactured parts which avoid the need for new production.]

[Students should be encouraged to consider the limits and usefulness of an environmental basis for remanufacturing. Whilst the claims to reduce materials and production energy are strong (and documented through Life Cycle Assessment studies) students should be drawn to consider the possible disadvantage of extending the life of an older energy inefficient product. Whilst still a developing field of research, studies are showing the need for a modular approach to product design so that upgrading is possible with a remanufactured product.]

The case includes an interesting twist which more astute students ought to notice. Customer Data Protection is a major concern where products have hard disks and can hold personal data. One significant difference between PlayStation®2 and PlayStation®3 is the inclusion of a hard disk. Students should be directed to consider how Sony would be able to manage this change (and also to understand the real risks if not). Whilst the idea of customers’ personal data being divulged is obvious this is not the greatest risk. A much greater risk would be that inappropriate material (such as pornographic images) from one console are undetected and then sent to another customer. The risk to Sony of a young person receiving a replacement product with such material would be huge.
Further Work

If you or your students wish to undertake further work in remanufacturing and reuse please consider the following areas:

1. Research other documented case studies in remanufacturing. The Xerox case study looks at product remanufacturing whilst the Caterpillar case study looks at component remanufacturing.

2. Consider contacting other remanufacturing companies and ask to undertake a study (perhaps on one aspect such as logistics or marketing) from their operation.

3. Consider contacting a company that does not currently offer a remanufactured or reused option and ask to undertake a feasibility study.

The sponsors of this case study (CRR contacted via www.remanufacturing.org.uk) will be willing to help supply available materials and may be able to establish links with interested companies.

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End.