

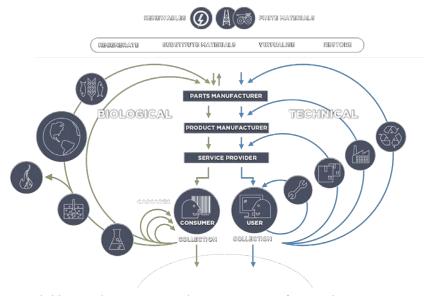
Executive Summary

At a recent Ellen MacArthur Foundation CE100 meeting, an Original Equipment Manufacturer (OEM) representative said his department was interested in exploring the sale of remanufactured/refurbished products, but his sales team kept raising the objection that doing so would negatively impact new product sales. This comment fostered a lively discussion at the meeting – and ultimately the development of this white paper.

On the following page, we'll share the thoughts and experiences of eight global organisations all of whom make a remanufactured or refurbished version of their product. As you read, you'll notice several key themes emerge, including:

- Selling remanufactured/refurbished products is a business decision to extract
 maximum value out of a given product. Regardless of how the OEM received
 products back, all contributors indicated that the opportunity to maximise the
 value of those products drove the decision to remanufacture/refurbish them.
 Many OEMs also expressed some variation of a simple quote offered by one
 contributor, "the circular economy [had] caught up to [their] business practices."
- Selling remanufactured/refurbished products leads to new sales and new business opportunities. In fact, most manufacturers indicated that selling remanufactured/ refurbished products is not only a profit centre, but a growing part of their business.
- The decision to sell remanufactured/refurbished products and the implementation of that decision – requires an enterprise-wide conversation to be successful. Key stakeholder groups including marketing, sales, R&D, IT and senior leadership need to be engaged in this decision to ensure all issues are raised and addressed.
- Changes to existing business structures will be required. Whether it is new
 collection systems, a remanufacturing/refurbishing facility, service-provider, or
 new sales channels, OEMs will need to implement these modifications.

In the Ellen MacArthur Foundation's <u>Circular Economy System Diagram</u>, refurbish/ remanufacture represents a significant element of the circular elements for finite materials. This activity springs directly from the collection of used, unwanted, broken and discarded parts and products.



Our white paper deliberately examines this issue more from a business perspective because, in order to transition to a circular economy, business decisions will have to be made. Our hope is this white paper can help accelerate and inform these conversations, which in turn will help accelerate the adoption of a circular economy.

Introduction

Car buying changed dramatically during the 1990s. During this decade consumers began to lease cars in significant numbers rather than buying. A leased car offers affordable monthly payments, warranty protection, regular maintenance, and the opportunity of a new car at the end of the lease. With the growing popularity of this service, automobile manufacturers had to find new solutions to manage the returned leased vehicles.

To manage this stream of vehicles and, more importantly, to distinguish them in the used car market, manufacturers began to offer certified used car programmes.

A certified used car is one that has been inspected and is warrantied by the manufacturer. While the details vary from manufacturer to manufacturer, a certified used car usually:

- is less than five to seven years old
- has a limit on the number of miles it has been driven
- goes through a quality assessment
- has a vehicle history report

Certified used cars are a profitable market for car manufacturers – these cars are priced at a premium relative to a non-certified used car, profit margins are high, the cars sell faster, and manufacturers sell these certified used cars through their dealerships, thereby driving additional traffic and sales to the dealer. The sales of certified used cars continue to expand, having grown every year for the past eight years; today representing approximately 20% of used car sales¹.

Other manufacturers who are considering selling remanufactured or refurbished products can benefit from the automobile industry's experience. Specifically, the automobile industry has shown how to become a profit centre by pursuing a robust approach that leverages brand power, offers competitive pricing, and maintains quality.

It also parallels the experience described by the eight manufacturers who contributed to this white paper. When asked if selling remanufactured or refurbished products impacted new product sales, they all agreed – not only did it not hurt new product sales, it led to new and expanded business opportunities.

This white paper was developed using contributions from Bridgestone/Bandag, Dell, ecobee, General Electric, HP, Lexmark, Philips, and Renault. All participants received the same list of questions and issues to address, and all findings are based on this input.

http://www.autonews.com/article/20170130/RETAIL04/301309991/cpo-sales-poised-for-another-record-in-17

Remanufactured vs. Refurbished

Before we go further, let's clarify the differences between remanufactured and refurbished. The simplest explanation is that a remanufactured product has been re-built and performs at least as good as new. A refurbished product has undergone some type of functional testing to ensure its return to near-new operating quality and frequently may include fixing some visible/cosmetic blemishes also. But, the differences run deeper than that.

Remanufacturing, according to the American National Standards Institute (ANSI), "is a comprehensive and rigorous industrial process by which a previously sold, leased, used, work or non-functional product or part is returned to a "like-new" or "better-than-new" condition – from both a quality and performance perspective through a controlled, reproducible and sustainable process." A remanufactured product must meet the original factory performance and can often be considered better-than-new because all known failure modes for the product or part have been addressed in the remanufacturing process.

Refurbishing a product lacks the specificity and credibility of an ANSI standard, and as a result quality can vary considerably. Typically, refurbishment includes fixing visible defects and functional testing.

This paper does not attempt to equate remanufactured or refurbished products as the same or equal - nor does it extoll the virtues of one over another. Rather, it looks to use the experience of manufacturers who sell one or both types of products to understand the impact selling these products may have had on new product sales.

Why Sell Remanufactured or Refurbished?

The question posed to each contributor - why sell a remanufactured or refurbished product - was an integral part of the interview process and resulted in a wide-range of answers among the eight OEMs. Some have been engaged in this business for decades, while for others this is a relatively new business venture. The rational for selling these products included:

- · Maximising product value
- Meeting regulatory requirements or addressing regulatory concerns
- Meeting sustainability/circular economy goals or targets

However, regardless of the impetus, all unequivocally agree selling remanufactured or refurbished products has been a profitable business decision. As the circular economy shifts business strategy from cradle-to-grave to cradle-to-cradle, the recovery and re-use of products is going to be an essential step for many OEMs. This is a challenging step fraught with risk but also packed with critical learnings for those who accept the challenge.

Impact on Sales

The key finding from our eight OEMs was that selling remanufactured/refurbished products does not negatively impact new sales. Many have longitudinal data to support that conclusion. In fact, all the contributors who provided input for this white paper concluded the exact opposite – selling refurbished/remanufactured products increases sales overall and provides new sales opportunities.

The first opportunity exists with customers who can't afford a new version of the brand they specifically want. Refurbished/remanufactured products – because they are sold at a discount – are more affordable and allow customers to have access to the brand they want. Whether it is an individual consumer buying a single product or a business customer buying a system or network, all the contributing manufacturers noted that having a quality remanufactured/refurbished product allowed them to sell to a customer that otherwise may not be able to buy their product. One contributor put it clearly when they said, "when you are the market leader, people want your product. These (refurbished/remanufactured) products are a great way to reach those customers who would otherwise buy a lower-cost competitor."

This is supported by a recent article in the Reverse Logistics Association Magazine where Varun Thakur of Amazon writes, "while smartphones and computers are driving the bulk of the growth in the refurbished space, the increased awareness of the consumer is making them open to purchasing refurbished cameras, audio devices, home and kitchen appliances, office products, pre-owned watches and even open-box products. Customers are willing to purchase brands they would like to own at prices they can afford."³

Second, in addition to reaching new customers, it allows customers to buy more products. When dealing with financial constraints, offering a remanufactured/refurbished option allows the customer to extend their budget. One contributor noted that "when you are dealing with a "can't exceed" budget limit, selling remanufactured products allows us to give the client more, but just as good, product."

Third, remanufactured/refurbished products offer OEMs an opportunity to sell service or support contracts as a companion sale. This not only delivers another revenue stream but creates a long-term relationship with the end user.

Fourth, these products are used in lieu of new products for retail displays, for training purposes, and for community outreach efforts. While this displacement of product may not lead to immediate sales, it does provide cost-reduction.

Finally, there are markets - notably government - that require a percentage of recycled content. Several contributors noted that they use refurbished/remanufactured units to meet this requirement and one contributing OEM noted that their government sales have grown significantly since they started offering refurbished/remanufactured products.

The clear, unanimous consensus of all the contributing manufacturers was that selling remanufactured/refurbished product is a growth area that does not negatively impact new product sales. All that said, most contributors made it clear that the concern about cannibalisation of sales is an important one that needs to be addressed by each organization.

Varun R Thakar, "The Rise of Refurbished Electronics' Marketplaces", Reverse Logistics Association Magazine Edition 93

Benefits Beyond Sales

Beyond growing sales, the contributing manufacturers also highlighted several other benefits of selling refurbished/remanufactured products.

The first is about product quality and understanding product performance. Because they know their product will have a life after its first use, some OEMs build quality, durability, repairability and upgradeability into their products. They are designed to last, be easily repaired, remanufactured, and upgraded. Additionally, because these OEMs have systems in place to recover their old units, they have regular, robust data on the performance of their products – after the product's first life – so quality issues are more easily identified and addressed. One OEM said, "we expect our products to have a life of 12 – 15 years. Providing our engineers data on why and how the products are failing was an excellent opportunity to improve product quality."

A smaller group of OEMs said their refurbished/remanufactured products spurred new product quality initiatives. Specifically, their products were designed for a "limited number of uses" initially. But, after the decision to recover them and offer a refurbished/remanufactured version, they simplified the product design and made it easier to remanufacture thereby extending the life of the product considerably.

Regardless of the path the OEMs took regarding quality, they all agreed -quality in the initial product design is essential for selling remanufactured/refurbished products down the road, and the opportunity to bring the product back and inspect it provides invaluable insights into product performance issues long term.

The second benefit OEMs realised is the opportunity to optimise existing and build-out business capabilities. Multiple contributing OEMs indicated that during the process of planning for the sale of refurbished/remanufactured products, they identified areas of their existing business that could be improved and optimised. One OEM noted that "by recovering our own products, we rethought our entire supply chain and logistics system. This process made us consider decisions we had never considered previously." Additionally, they were able to build-out entirely new business capabilities related to the recovery, refurbishment/remanufacturing and re-selling of products. The most common were systems to recover the products at end-of-life or end-of-use and the systems to remanufacture or refurbish the products.

The third point was a critical one for many of our contributing OEMs – selling remanufactured/refurbished products is an opportunity to meet market demands, serve customers, and compete for market share at a different price point. In fact, some manufacturers were quite clear that their sales of remanufactured/refurbished products frequently won in head-to-head sales over the sales of their value-based competitors. By being able to offer a quality, warrantied product at a competitive price versus the value-based brand competitors, they can attract new customers who otherwise might have chosen a value brand. One OEM specially targeted this market with an initial pilot and found that their limited number of factory-certified refurbished products sold out quickly and prompted requests for more of the refurbished products.

Keys to Success

When discussing the marketing and sale of refurbished/remanufactured products, there was again a great deal of unanimity among the OEMs on key issues.

Brand is king.

The first seems obvious but is critical – it must be affiliated with the OEMs primary, original brand. All the contributors agreed that they were not just selling a product, but also their brand and brand experience. Creating a new or separate brand would not work when selling refurbished/remanufactured products. Contributors said that doing so could create confusion in the consumers mind, degrade the consumers trust in the product, and require the creation of an all-new brand presence.

Own the remanufacturing aspect.

It must be clearly labelled as refurbished/remanufactured. One OEM said, "if a consumer buys a remanufactured product and they think it is new, we expect that product will be returned." Being transparent is important. Some OEMs also said that they will be clear about the quality checks and improvements the product may have undergone, although there was no universal agreement on this point.

Quality performance is not optional.

The product must perform like a new product. Contributing OEMs across-the-board were in agreement on this issue. That said, they also agreed that – as per the above – a refurbished/remanufactured product can't be marketed as new and that consumers are willing to settle for fewer features on a refurbished/remanufactured product. All agreed that consumers are not willing to settle for subpar performance. In the words of one contributor, "these customers are looking for value, and that includes performance. If it doesn't perform, it won't sell."

This demands that the product be of high quality from the onset. If the original product is not designed to last, it is hard to recover and near-impossible to refurbish/remanufacture it in a way that makes economic sense. This was a point that was highlighted in multiple ways by each contributing OEM. As one OEM put it, "our ability to recover and remanufacture our products is a result of the quality we put into the products. If that initial focus on quality wasn't present, this system (to recover, remanufacture and sell the products) wouldn't be possible."

Price for value.

Remanufactured/refurbished products should be sold at a discount. While this discount varied from 15-40% among the contributing OEMs, all agreed. One OEM said they did multiple different pricing experiments to find the "sweet spot" that allowed maximised sales volume and profit. In every case, the OEMs agreed that selling remanufactured and refurbished products is a profit-centre.



Guarantees add credibility.

Remanufactured/refurbished products must be warrantied. The OEM must stand behind the products' performance and provide the consumer with peace of mind. Again, in all cases but one, the warranty offered is not the same as on a new product, but the product is warrantied. The exception to this is one OEM that recently extended the warranty on their factory-certified refurbished product to have the same warranty parameters as their new products.



Consider separate channels

Realise that separate sales channels may need to be developed. There was not unanimity on the idea that these products should only be sold through unique sales channels. Several OEMs noted that while they do use sales channels for new products to sell refurbished/remanufactured products, these channels may not be sufficient. However, in most instances the OEMs reported that remanufactured/refurbished products were sold through the same channels as new products, but that they had additional market outlets for the remanufactured/refurbished product.

Issues to Consider

When asked "What should an OEM consider as it contemplates selling refurbished/ remanufactured?" there was a range of answers that can be distilled down to the following.

First, engage the entire enterprise. As it has been made clear throughout this white paper, the decision to recover, refurbish/remanufacture and re-sell products impacts the entire enterprise. Working across the enterprise to understand the opportunities, barriers, and challenges will help accelerate the success of the initiative. From engineering to accounting, sales to marketing, logistics to customer service, different OEMs cited insights they gained by working across their enterprise to address this question. One OEM noted that the conversations with their sales team brought up the issue of potential impact on new product sales and this lead to changes in the compensation of the sales team selling the products.

Second, listen to and address concerns. One contributor said, "some of the concerns are rooted in fear of the unknown and something new, but by listening and addressing the concerns you can increase support for the initiative across the enterprise." After all, this white paper springs from exactly one of these concerns and while it may be true that new sales are not impacted, working with the sales team to understand their concerns, and finding ways to allow line-of-sight and input on the decisions that will affect their jobs is critical to getting support and buy-in.

Third, benchmark and start small. Multiple OEMs noted that they studied other companies' efforts and then piloted efforts to test their systems and products. This allowed them to learn and adapt quickly, minimise costs and risks and run experiments to find the optimal solutions.

Fourth, recognise that selling remanufactured/refurbished products will require new business operations. Most commonly, these were product collection systems. This is an opportunity to examine existing systems, develop new systems to complement or supplement those existing systems, and develop entirely new competencies. Whether these new business operations are out-sourced or kept in-house was an area where no unanimity was reached among contributors. However, all agreed that regardless of who does the work, consistency in process and quality is a must.

Finally, understand the regulatory environment of your target market. In some markets, there is clear regulatory guidance/direction about the use of not just the term refurbished or remanufactured but the products themselves; assuring compliance with these regulations is critical. While this is not true for many of the OEMs interviewed, those who raised this concern indicated that it is a prima facia issue that can derail the effort if not done correctly.

Conclusion

The overwhelming consensus among our contributing OEMs is that selling remanufactured or refurbished products does not negatively impact new product sales, but in fact leads to significant new opportunities for business optimisation, expansion, and sales.

Like the automobile industry selling certified used cars, our contributing manufacturers used their brand affiliation and pricing strategies to help customers stretch their purchasing budget by making refurbished or remanufactured products available.

The decision to sell remanufactured and refurbished products is one that will impact most elements of the business, so engaging in a process that listens to and adapts to the concerns raised across the enterprise will help gain acceptance.

Taking the product back for recovery gives the company new insights into the quality issues related to that product and can provide an impetus for design and manufacturing changes that not only increase product quality but make the product easier to recover, remanufacture, and upgrade.

The journey from asking the question, "should we sell refurbished/remanufactured products" to making it happen is not a simple one. But it is one that can help an organisation expand its sales, potentially impact their share of market versus value-based competitors, and develop new business operations/competencies. While on this journey, the organisation will encounter a variety of concerns, complaints and considerations, and it's important these are addressed and answered to assure buy-in and support for a successful outcome. Additionally, there are multiple other organisations that have already successfully travelled this journey and can provide important and valuable insights, some of which are shared here.

Contributors



















About CoreCentric Solutions, Inc.

Founded in 1995, CoreCentric Solutions, Inc. is a leader in aftermarket service solutions. From its headquarters outside Chicago, Illinois, the company provides customized product and part lifecycle management and remanufacturing solutions to some of the largest consumer goods retailers and appliance manufacturers in the world. Dedicated to the reduction of waste, CoreCentric keeps approximately 3,000 tons of material out of landfills on an annual basis. For more information, visit us at corecentricsolutions.com.



About the Ellen MacArthur Foundation

The Ellen MacArthur Foundation was created in 2010 to accelerate the transition to a circular economy. The Foundation works across five areas: insight and analysis, business and government, education and training, systemic initiatives and communication. In its business and government programme, the Foundation collaborates with its Global Partners (Danone, Google, H&M, Intesa Sanpaolo, Nike, Philips, Renault, Solvay, Unilever), Core Philanthropic Partners (SUN, MAVA, Players of People's Postcode Lottery) and its CE100 network (businesses, universities, emerging innovators, governments, cities, affiliate organisations) to build capacity, explore collaboration opportunities and develop circular business initiatives.



About the CE100

The Circular Economy 100 is a precompetitive innovation programme of the Ellen MacArthur Foundation, established to enable organisations to develop new opportunities and realise their circular economy ambitions faster. It brings together corporates, governments and cities, academic institutions, emerging innovators and affiliates in a unique multi-stakeholder platform. Specially developed programme elements help members learn, build capacity, network and collaborate with key organisations around the circular economy.



About Collaborative Projects (Co.Projects)

Co.Projects are opportunities for formal precompetitive collaboration between CE100 members. They are driven by members, for members and their focus can range from research initiatives to pilots and toolkits. Co.Projects leverage the CE100 network with the aim of exploring opportunities and overcoming challenges which are commonly and collectively faced by organisations making the transition to a circular economy, and which organisations may not be able to address in isolation. making the transition to a circular economy, and which organisations may not be able to address in isolation.