Uncover True Profit Concentration with Whale Curves

Seeing how few products create profit and how many products destroy it is a call-to-action to identify and remove complexity costs

We see the prevalence of the notion '*customization is king*' every time we shop.

The latest mobile device comes in three models, four sizes, six colors, and five storage options—paired with different packaging for each carrier.

The grocery store offers 15 options of your favorite brand of soft drink across various flavors, sizes, and packaging. And the soft drink producer offers even more varieties to other grocery chains. Offering this level of customization to make customers happy comes at a cost.

Not all products are created equal—they have different sales volumes, profit margins, and production requirements. Many companies, as well as traditional profitability measures, fail to adequately account for the added complexity costs customization introduces into their operations and overhead.

Our research confirms that 20%–30% of products usually generate 300% of profits with the remaining 70%–80% of products destroying 200% of profits. This profit concentration can be accurately modeled through the use of a whale curve by plotting cumulative profits against cumulative products ranked by profitability.

Traditional profitability measures are insufficient, but complexity-adjusted whale curves reveal true profitability.

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Square Root Costing identifies true customer & product profitability

Wilson Perumal & Company (WP&C) developed Square Root Costing to address the lack of practical alternatives for companies to understand their true costs.

Companies typically treat costs as either fixed or variable. However, a significant and growing portion of costs fall into a third category—complexity costs. These costs are driven by variety, such as SGA, working capital, and manufacturing overhead. Square Root Costing enables a more accurate allocation of these costs.

Armed with this knowledge, companies can understand true customer and product profitability and build better strategies to address product mix, innovation, and international expansion—enabling them to better compete in our complex world.

Representing profit on a whale curve

WP&C's whale curves plot cumulative margin adjusted for complexity costs against cumulative revenue (Figure 1). This illustrates the impact of complexity costs on firm profitability. As complexity grows with more products and revenue, costs grow geometrically to a high point after which additional complexity costs exceed the value being created. Maximum profitability occurs at the inflection point.

The stark representation of profit concentration provided by a whale curve is eye-opening. Understanding how few products create profit and how many destroy it is a call-to-action to identify and remove complexity costs.

FIGURE 1: Typical Whale Curve

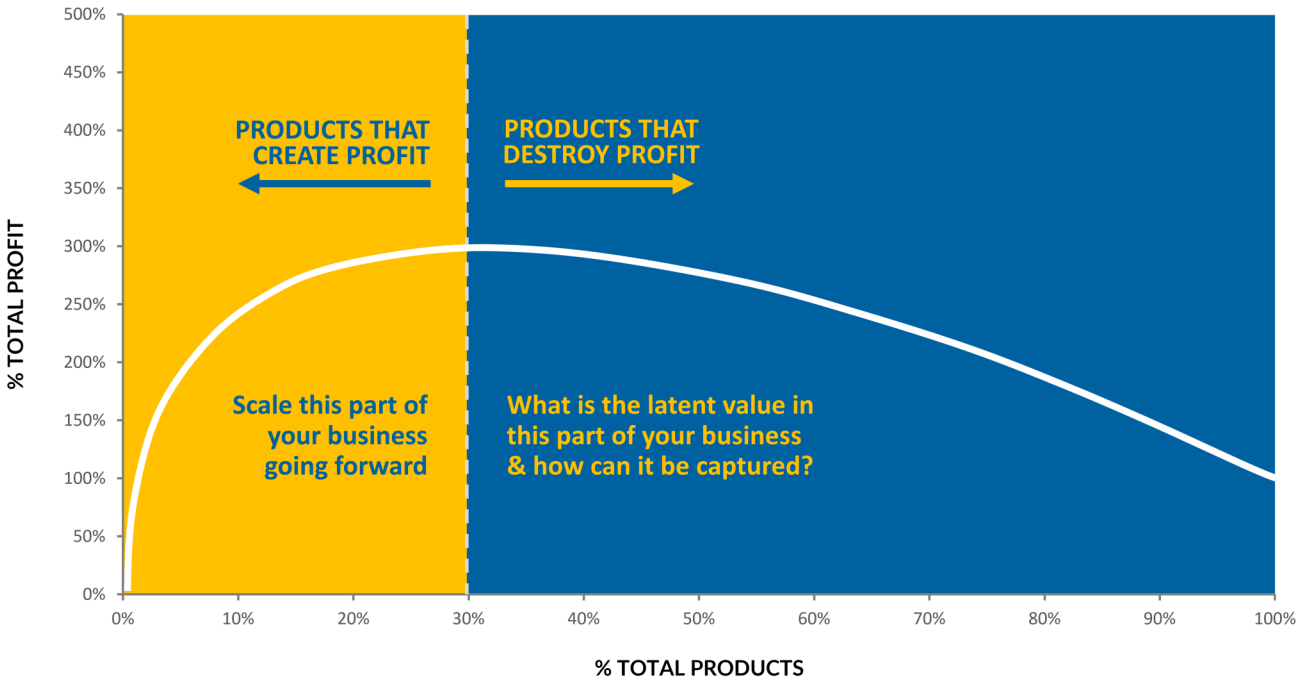
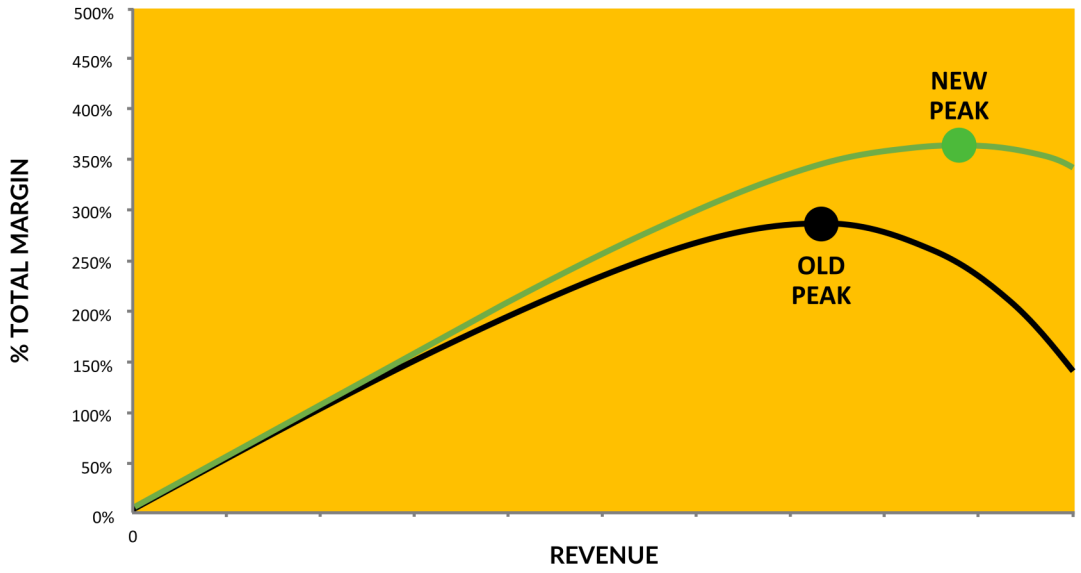


FIGURE 2: Moving Along and Shifting the WP&C Complexity-Adjusted Whale Curve



While the profit-destroying elements certainly warrant attention, identifying the level of profit concentration also underscores the need to appropriately resource and support the key 20%–30% of profitable products.

Often, profitable products are under-supported, as they are treated the same as the rest of the portfolio.

The shape of a firm's whale curve is dynamic. WP&C has a deep understanding of how to reshape whale curves and move to positions of higher profitability. Eliminating unprofitable SKUs is the conventional course of action. While this is a critical first step, stopping there leaves considerable opportunity untapped. Identifying and reducing complexity costs can shift the curve up and to the right, allowing for even higher profits with minimal impact on revenue (see Figure 2).

CASE STUDY: Regaining profitability for a manufacturer

An agricultural product manufacturer was struggling with a huge number of SKUs spread across many manufacturing facilities. By using Square Root Costing to accurately allocate costs and developing and analyzing their whale curve, one facility revealed that only 21% of its products were profitable, generating 380% of profits. The remaining 79% of products—representing only 19% of volume—destroyed 280% of profits.

The manufacturer quickly captured a 25% profit improvement by selectively removing unprofitable SKUs and modifying their plant loading to eliminate significant transportation and storage costs (shifting their whale curve up and to the right).

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