

# Should companies sell know-how, components, or systems?

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Researchers from American University, University of Arizona, University of Texas-Arlington, and Texas Tech University published a new *Journal of Marketing* article that explores the "what to sell" question

that companies and investors need to answer before deciding "how to sell."

The study is authored by Kellilynn M. Frias, Mrinal Ghosh, Narayan Janakiraman, Dale F. Duhan, and Robert F. Lusch.

Apple's co-founder Steve Wozniak has suggested that the company's initial plan was to sell circuit boards incorporating its microprocessor chips. However, that ambition took a turn when Steve Jobs and Wozniak created the first personal computer in 1976, the Apple I. With its successor, Apple II, Apple became the pioneer in the personal computer industry.

Plenty of research has focused on the new product development process and commercialization. However, one fundamental decision regarding technology commercialization remains relatively unexplored: In what form do we sell the innovation in the market? A recent article in *Wired* examines the need for electric vehicle companies to rethink the design and whether the battery should be modularized.

These companies are rethinking their designs to reduce the wasted space and weight created by modularized batteries. To alleviate this issue, companies like BYD develop and sell batteries and vehicle components as well as cars, while CATL, BYD's biggest competitor, sells batteries integrated into the vehicle chassis.

This new *Journal of Marketing* study explores the "what to sell" question that companies and investors need to answer regularly. For example, when entrepreneurs pitch their ideas on the popular television series *Shark Tank*, both Sharks (the investors) and entrepreneurs must identify and agree upon what the venture is trying to sell. Before they decide how to position products or services relative to competitors, developers at both established firms and new ventures must consider whether their

innovations should be sold as:

1. know-how (i.e., intellectual property),
2. components (i.e., intermediate goods), or
3. a system (i.e., final goods).

This product-form strategy, or PFS, decision is deeply embedded within many firms' product development and commercialization processes. For instance, when ventures seek funding from investors or when firms go public through an [initial public offering](#), they must show their revenue model (i.e., the market, the customers, the offering), which reflects the PFS. The PFS decision is linked to other fundamental questions of interest to marketers, including "Who is our direct customer?" and "Who are our direct competitors?"

As the researchers explain, "For a company selling baseball bats embedded with [sensor technology](#) with the customers being players, coaches, and clubs, branded bat manufacturers, such as Louisville Slugger, are the direct competitors. On the other hand, if the firm sells the know-how or a component device, branded bat manufacturers could be the customers."

For early-stage ventures seeking to enter a market for the first time, getting their go-to-market strategy "right" in terms of the product-form and the associated revenue model may be the chance for their survival.

Using data from the following sources:

- interviews with entrepreneurs and angel investors,
- investment proposals from angel networks,
- pitch transcripts from the U.S.-based version of Shark Tank, and
- experimental scenarios of investment proposals,

the researchers find that the resulting choice of PFS is due to three primary drivers:

- the difficulty of technology mix-and-match,
- the availability of marketing capabilities to sell the technology to end users, and
- the difficulty of safeguarding the know-how against imitation.

"Our research discovers that when technology is difficult to mix-and-match and safeguard, decision-makers will choose to sell systems over components and components over know-how. Marketing capabilities will also increase the likelihood of marketing systems over components and components over know-how. We also find key interactions among these drivers on the product-form decision," they add.

These findings suggest that considering the technology market and the firm's ability to protect its technology (against theft by supply chain members and competitors) is critical and that strategic deliberations about what to sell include examinations of the environment and the firm's own capabilities. Unlike much of the literature about [business models](#) that often conflates the "what to sell" and "how to sell" questions for [business strategy](#), this study finds that PFS is a unique decision that comes before the "how to sell" question is answered.

Product managers, entrepreneurs, and angel investors need to consider how these alternative product forms may increase the costs associated with selling one product form over another. Entrepreneurs need to assess the value [angel investors](#) bring and leverage these resources into their product-form options.

Additionally, managers at established firms that already have multiple product lines and who are mulling a market entry decision for a new technology may need to consider their commercialization deliberations

at the technology level and choose the product-form that is the most desired for that technology, regardless of how their other product lines are strategically positioned.

**More information:** Kellilynn M. Frias et al, EXPRESS: A Theory of Product-Form Strategy: When to Market Know-how, Components, or Systems?, *Journal of Marketing* (2022). [DOI: 10.1177/00222429221149437](https://doi.org/10.1177/00222429221149437)

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