CYBAGE
Delivering Value. Scientifically.

Contemporary Trends in **High Performance and High Throughput Product Engineering Partnerships**

Table of Contents

Introduction

Software Product Firms, also known as Independent Software Vendors (ISVs), have always been at the forefront of developing world-class technology. The business enterprises under different industries have benefitted significantly from these technologies and have enhanced their operational efficiencies and boosted their top and bottom lines.
Over the last many years, these software product firms have taken a very methodical and structured approach to their product engineering, contributing tremendously to bringing out world-class technologies.
Suppose we look at some of the world's changes in the late 90s. In that case, these software firms have been undertaking different development partnerships with Product Engineering Services (PES) providers to reduce the cost, ensure faster scalability, and reduce time to market. These partners became a virtual extension of a software firm's engineering arm.
For many years different software product firms have gained different ways from working with these partners. However, as these software firms embarked on heavy R&D to remain competitive, many things changed in these product engineering partnerships. We shall look at these trends and examine briefly how different avatars of product engineering partnerships shaped this industry. For our convenience, we have divided these avatars into 1.0, 2.0, and 3.0.

The Traditional Approach – Product Engineering 1.0

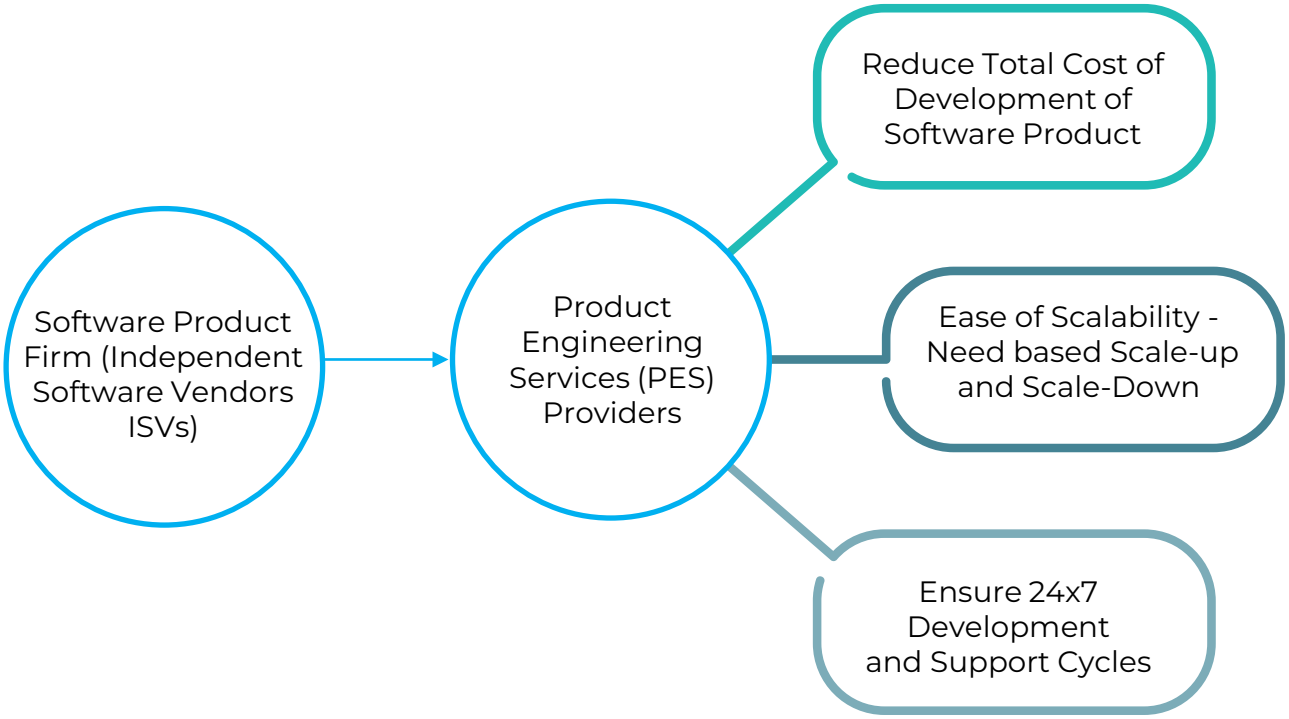
In the late 90s, when software product firms started scouting for product engineering partners across the world (especially in India and in parts of Eastern Europe), their vision was limited to a few specific goals, importantly:

- To reduce cost of development of a product
- Ensure almost 24x7 development cycles
- Rapid scalability

With these goals in mind, software product firms evaluated some aggressive product engineering services providers and made a few partnerships. The business models deployed under these partnerships have been different; however, fixed-price bids and time and material bids have been predominant.

Having clear goals and relevant business models enabled partnerships to deliver superior outputs. One of the important reasons they were successful was that the expectations from business partnerships were limited, and some of the goals were possible to achieve automatically by virtue of the natural characteristics of the partnerships. For instance, cost-cutting was bound to happen if the partner is from offshore destinations, such as from India, because of cost arbitrage and exchange values of the currencies. Similarly, 24x7 was also easily possible given the time zone differences. Lastly, scalability was also not a challenge because of the availability of vast qualified talent in offshore destinations like India.

As soon as the model matured, there were instances when the businesses of software product firms started to become more demanding. With the rise in competition, product obsolescence was faster than ever before. It required the businesses to look at these partnerships in specific contexts. There was a need when the intensity of partners' intervention had to be fine-tuned.



The markets became volatile, and innovation took over the business matters. Software product firms suddenly realized that it is not only the scale that matters; it is important to move up the value chain in serving the enterprises under different industries. It required a scientific model of partnership when the partners become enablers for these software product firms.

Interim Approach - Product Engineering 2.0

As the product engineering partnerships started to mature, the stakes began going higher, with the partners coming closer to the business and customers of the software product firms. Beyond the cost and scalability factors, the product engineering partners started to contribute to the time to market challenges as well. And that resulted in more mature partnerships, and in the process, everyone started gaining.

If we look at the gamut of changes in the early 2000s, there were certain critical areas of business where the product engineering partners started getting involved. Let's look at these areas into one more level of detail:

- **Time to Market :** It was a natural consequence of the scalability, cost, and 24x7 development support. Time to market is a critical area in the business affairs of software product firms, as it delivers a key competitive advantage to software product firms. With partners willing to work at the core level in the product development process and their erstwhile ability to scale up and down and manage the business continuum, there is a direct impact on shortening the time to market for the principals. It is also one of the litmus tests for the partners to determine with a software product firm can strike a long-term deal with them. If a partner can deliver on this front, they can become a partner of choice and makes a firm impact on the top line.

Domain Expertise : As different software product firms operate in various industry verticals, their knowledge about the target's industry's workflow, business processes, nuances, and practices is key to adding any value to their customers' business.

When the partners come into the picture, they carry a value proposition to be an extension of the software product firm's engineering team. If those engineering teams are looking to gain and harvest domain knowledge of the target industries, it becomes natural for partners to gain that domain.

Since the partners have matured business models and diverse talents weaved into an efficient workflow to deliver value, they quickly adapted to a demand for knowing the vertical domain completely.

This trend brought the B2B level collaboration between the software engineering services provider (partner) and the software product firm.

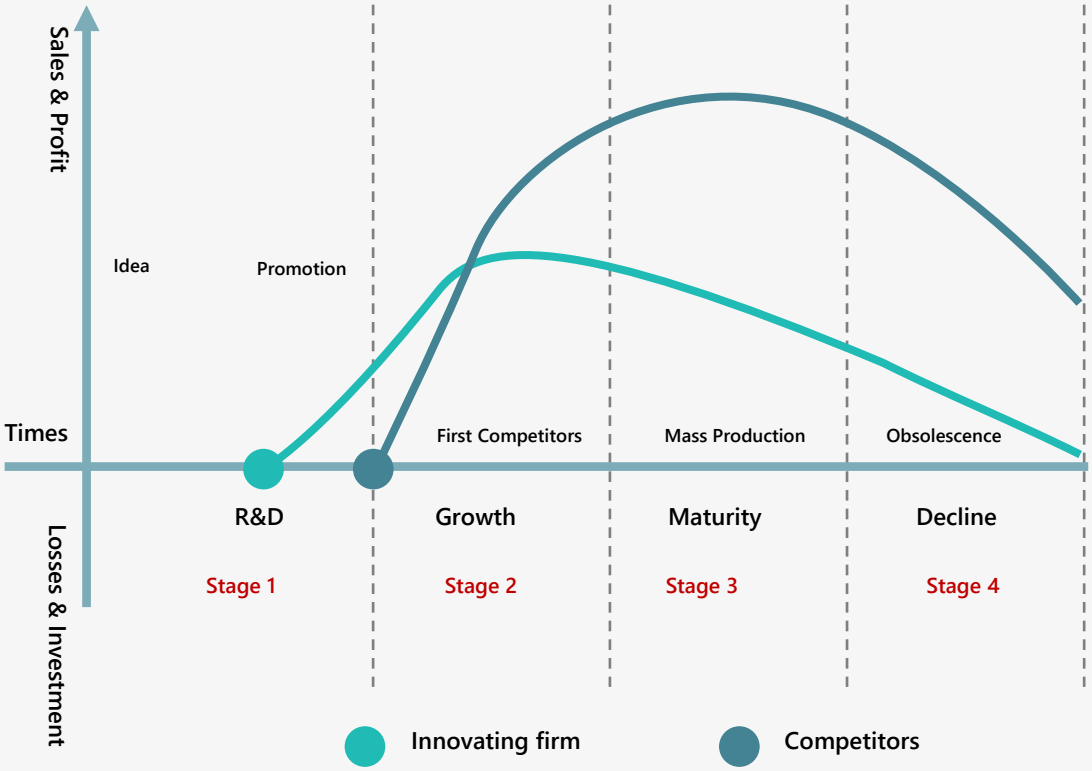
Emphasis on Product Life Cycle (PLC) : Every software product has its own life cycle (See figure below). As the R&D proceeds and the product is born and goes through different stages of its life cycle, there are different states of affairs that a product firm needs to manage. Each stage demands a unique intervention to remain competitive and gain market share.

As we can see in the PLC figure below, there specific attributes of each stage. The product firms expect their product engineering partners to present a compelling value proposition at each such stage.

Product Engineering partners, especially those operating for over 10 years in this space, have the required ecosystem to orchestrate and present offerings for each stage of the PLC. These offerings have different levels of depth and breadth to meet the unique needs of each stage.

With this, partners can claim to be 'true partners' to these product firms as they work hand-in-hand with the product management and senior management teams to help the product succeed in the marketplace.

It has been one of the important trends likely to exist for a long time and make the product engineering partnerships more intense and strong. In the next section, when we talk about Product Engineering 3.0, we can see the direct relevance of the PLC in offering high-performance services.



Contemporary Trends – Product Engineering 3.0

At Product Engineering 2.0 stage, the concept of PLC saw tremendous relevance in the industry. While PLC focus is expected to continue to the 3.0 stage, a special feature of this stage is going to be high-value chain interventions by partners into the business of software product firms.

Suppose we keep the PLC-based product engineering services as a baseline for a new generation of digital product engineering services. In that case, we can see some areas where specific business factors demand more attention from partners than pure engineering. In all the stages that the industry has seen so far, the emphasis of the business barometer is likely to get more strength.

When we say business barometer of software product firms, we mean that before and beyond the challenges of PLC, there are several areas where the product firms are doing different types of due diligence and where partners can step in.

These interventions on the business/revenue side of affairs can be called “Product Consulting.” Here the partner steps into determining things such as:

- **Product Modernization Consulting :** We get to see this in the PLC (especially at the decline stage of product PLC); this area of consulting involves being on the "outside" of business to advise if and which product needs to be modernized. This modernization advisory is key to ensuring business continuity of key products before they become complex to manage or obsolete given new tech innovations such as Cloud Computing.

- **Product ROI Consulting :** This applies more to multi-product software companies. It involves looking at ROI each product generates and enables the senior management to decide which products should be phased-out or continued. It is done in the close consultation of product engineering partners who have seen the products for a long time and analyzed the prevailing trends in this space.

- **Tech Stack Consulting :** While partly like product modernization, this is different from determining if the products are built using the most optimized technology stack, architectural due diligence, and related cost considerations. It further helps the principal software product firms to optimize the entire product line from the business technology standpoint.

A Case in Point

A US-based $520 Million Independent Software Vendor (ISV) has a robust business focus in the Banking and Financial Services industry with their flagship product line for capital markets, viz. for large broking houses and stock exchanges.

These products offer end-to-end seamless processing of trades, right from order placement in multiple stock exchanges using the front office software to online risk management using the dynamic risk management system, to complete back-office system to generate a contract and update the books of accounts. All this with the seamless deployment of Straight Through Processing technology.

Over the years, looking at advancements in the capital market technology and Fintech, the Chief of Products of this ISV found that many of their intellectual properties were getting obsolete. For instance, with the advent of native apps on a proprietary platform, much focus went on trading using mobile devices such as smartphones. Similarly, with AI/ML-based algorithms, risk assessment, fraud surveillance, and back-office systems are largely operated through bots.

However, the base platform over which their technology products were built was quite robust. It required the CxOs and Board (which constituted certain PE firms) to examine the critical analysis into how much 'catching up' they would need to extend the product lines, making them relevant in the market. At the same time, how much investment would that mean for them? Since multiple factors, such as cost and technology, were involved, it was decided to partner with a specialized Digital Product Engineering Services provider to help them do due diligence.

At the inception of this critical analysis, many senior executives with this ISV thought that a management consulting firm (like the Big 4) would be entrusted with doing the due diligence. However, astute decision-makers were clear that this requires a thorough understanding of technology and a vast experience of building and delivering multiple enterprise software systems. Hence, a PES specialist was a logical and scientific choice.

With the partnership, the entire due diligence took 9.5 months. The partner studied the entire product line, its capabilities, architectures, features and functionalities, and the competitive forces during the exercise.

At the end of this product consulting exercise, they recommended that they consider M & M&A as a quick succession to get into the mainstream contemporary business focus. These inorganic software products were integrated with the existing product line using the partner's software product engineering capabilities to keep costs under control and match the competitive time to market.

The ISV gained the following business benefits because of the due diligence exercise with a qualified product engineering services partner:

- Techno-commercial due diligence was carried out cost-effectively to enable critical decision-making matters relating to product continuity and investment into innovations.
- A risk-based approach was recommended that allows identifying products in the market with required capabilities to be seamlessly integrated with the base product, such that there was no need to invent things from scratch.
- A backup support system of data-driven product delivery was available in the event of business accepting the integrations with other products, which requires rapid scalability keeping the cost in control.
- A frugal innovation piece was also identified, which the ISV can choose to invest in to offer extended functionalities and capabilities. The partner's proven idea incubation offering can be leveraged to deliver the incremental innovation in this innovation.
- Overall, the proposition allowed the ISV to ensure that they remain relevant and ensure business continuity.

Summary

To summarize, Product Engineering as we see it today has undergone a different set of changes ever since its evolution several decades back. With an initial emphasis on cost and scale, this transitioned to a new age avatar where product engineering partnerships are built over the entire Product Life Cycle and to the more intense and high-performance level of Product Consulting.

CYBAGE
Delivering Value. Scientifically.

[An ISO 27001 Company]
Tel: 9120 6604 4700 | Fax: 9120 6604 1701
India | USA | UK | Netherlands | Germany | Australia | Japan | Canada | Ireland | Sweden | Singapore
www.cybage.com