
COGNITIVE SOFTWARE PRODUCT SUPPORT

Rethinking Software Product Support in the As-A-Service Economy

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Introduction

It's hard to overstate the importance of product support to software and high-tech companies. Good product support helps in customer satisfaction and influences purchase and repurchase decisions.

But what is good product support? Ideally, it's where no support is required. Although companies should strive to develop products that require minimum product support they should also look at improving the customer experience and reducing time spent on product support. Overall product support systems should be cognitive, intelligent and self-improving.

This is all the more important because most customers in the As-a-Service Economy are used to a customer-centric user experience and instant gratification. They expect the same for software and high-tech firms in both the consumer and enterprise segments. Companies need to minimize the need for product support, provide an improved customer support experience, and improve the effectiveness and timelines for product support.

Most companies outsource product support. But, whether in-house or outsourced, improving product support typically means adding headcount or seats, which will increase costs. Adding seats may improve responsiveness but may not improve customer support effectiveness.

There has to be a better way to do it. Enter the As-a-Service Economy, in which product support can be re-imagined and existing product support process can be disrupted.

Rethinking Software Product Support in As-a-Service Economy

The As-a-Service Economy¹ is driving outcome-centric models that deliver software and high-tech customers value measured in mean time to repair (MTTR), customer satisfaction scores (CSAT), and revenue. It's about simplification. The transition to As-a-Service means removing unnecessary complexity, poor processes, and manual intervention to make a business nimbler. It is also about prioritizing where to focus investments to achieve maximum benefit and greater outcomes for business operations.

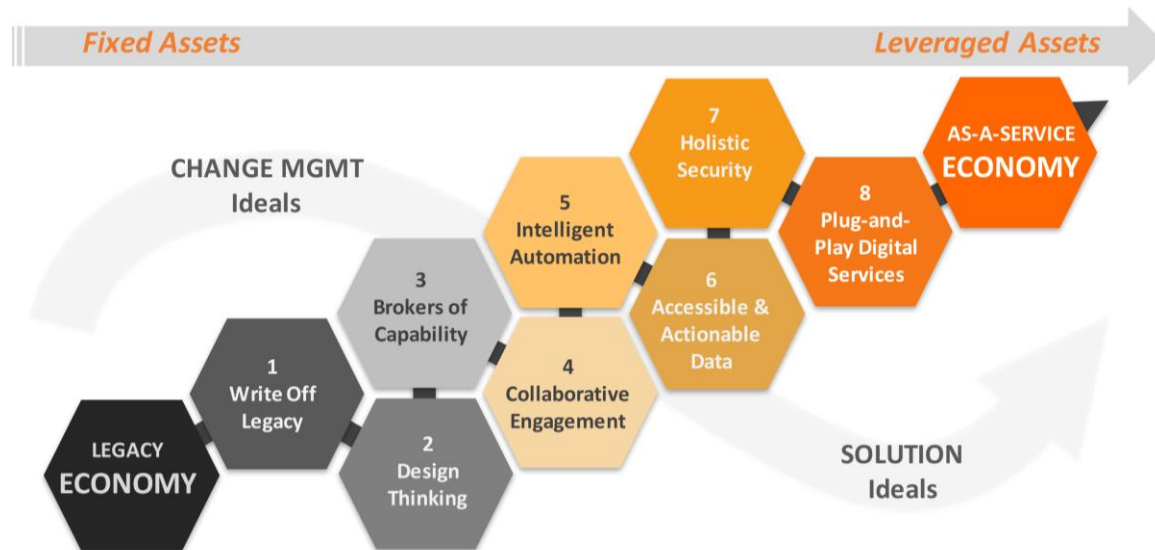
The emerging As-a-Service Economy will be more agile and dynamic, featuring on-demand plug-and-play services targeted to impact what matters to consumers as well as business. The two are increasingly intertwined because consumer insights, decisions, and loyalty carry increasing weight in the success or failure of an enterprise in any industry.

HfS has developed Eight Ideals that help an organization become an As-a-Service Enterprise (see Exhibit 1). To move toward this state, it is beneficial to begin with a willingness to write off any legacy investments in technology and operations and progress to the use of design thinking as a way to look at business challenges and opportunities with a fresh perspective. Then an enterprise can orient governance and relationships toward building service solutions with the optimum capabilities, regardless of their source. Moreover, enterprises can build the right commercial arrangements that break from past zero-sum constructs to encourage sustained collaboration and shared outcomes. These are the core building blocks, the Ideals for enterprises embarking on the change management required to make the transition to the As-a-Service Economy. With those change management ideals underway, it is then possible to craft an As-a-Service solution that incorporates talent, processes and technology to achieve the solution Ideals of Intelligent Automation, Accessible and Actionable Data, Holistic Security and Plug and Play Digital Business Services.

¹ HfS deliberately uses the word “economy” to emphasize that the next phase of product support outsourcing is a new way of engaging and managing resources to deliver product support services. Rather than just another “model,” The As-a-Service Economy emphasizes the breadth and staying power of this development—it focuses on what matters to the software and high-tech firms and their customers.

Exhibit 1: Transitioning to the As-a-Service Enterprise

- Moving into the As-a-Service Economy means changing the nature and focus of engagement among enterprise buyers, service providers, and advisors
- “As-a-Service” unleashes people talent to drive new value through smarter combinations of talent and technology focused on business results beyond cost reduction

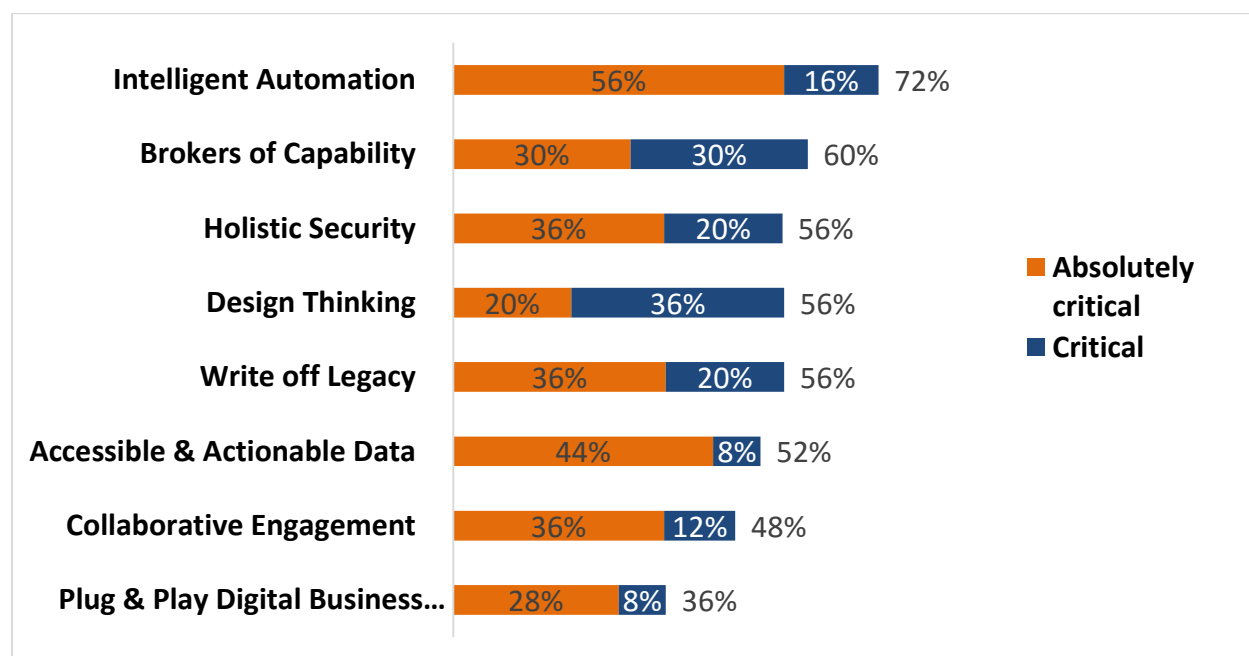


Source: HfS Research, 2016

In our research, we’ve found that software and high-tech firms are willing to transform their processes by following Eight Ideals of As-a-Service Economy we discussed in Exhibit 2. However, the relative importance of different ideals varies. For example, 72% of the respondents from software and high-tech firms have rated intelligent automation as either critical or absolutely critical; only 52% have rated accessible and actionable data as either critical or absolutely critical. Similarly, design thinking and collaborative engagement score much lower than intelligent automation.

Exhibit 2: Importance of “As-a-Service Economy” Ideals to Software and High-Tech Customers

Please state how significant you see the “As-a-Service Economy” ideals and the shift to more intelligent operations for your organization? (Just absolutely critical / critical responses)

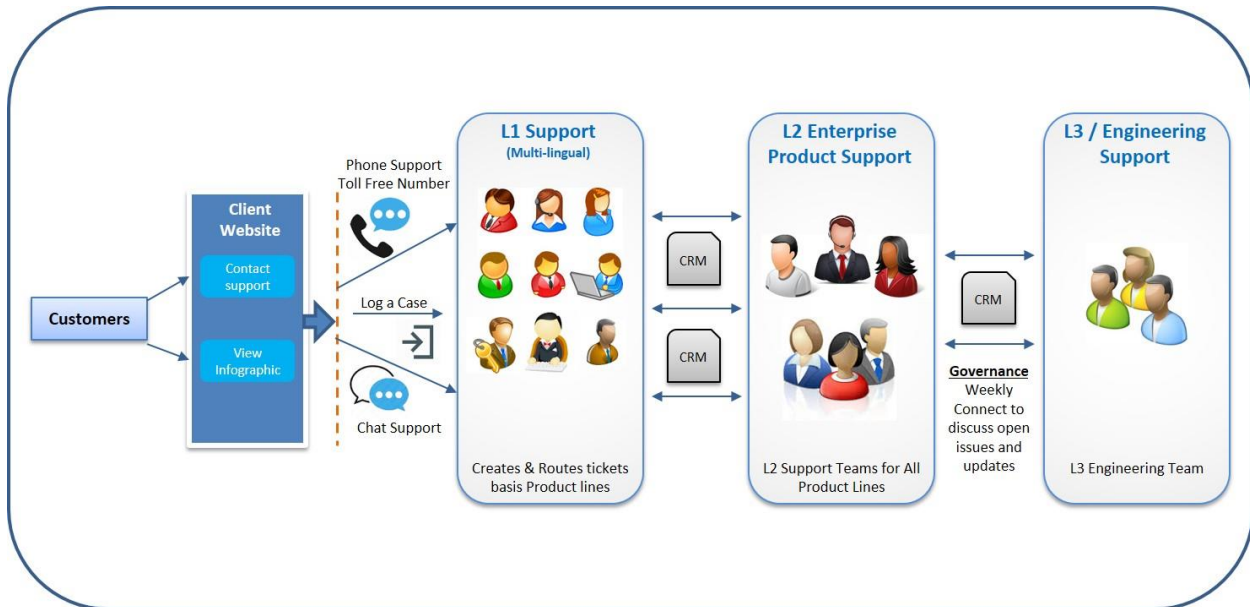


Source: HfS Research, 2016; Sample: Software & High-Tech Buyers = 25

Software and high-tech buyers have rightly identified automation as the path to value but the role of data, collaborative engagement and design thinking in getting there is not fully recognized.

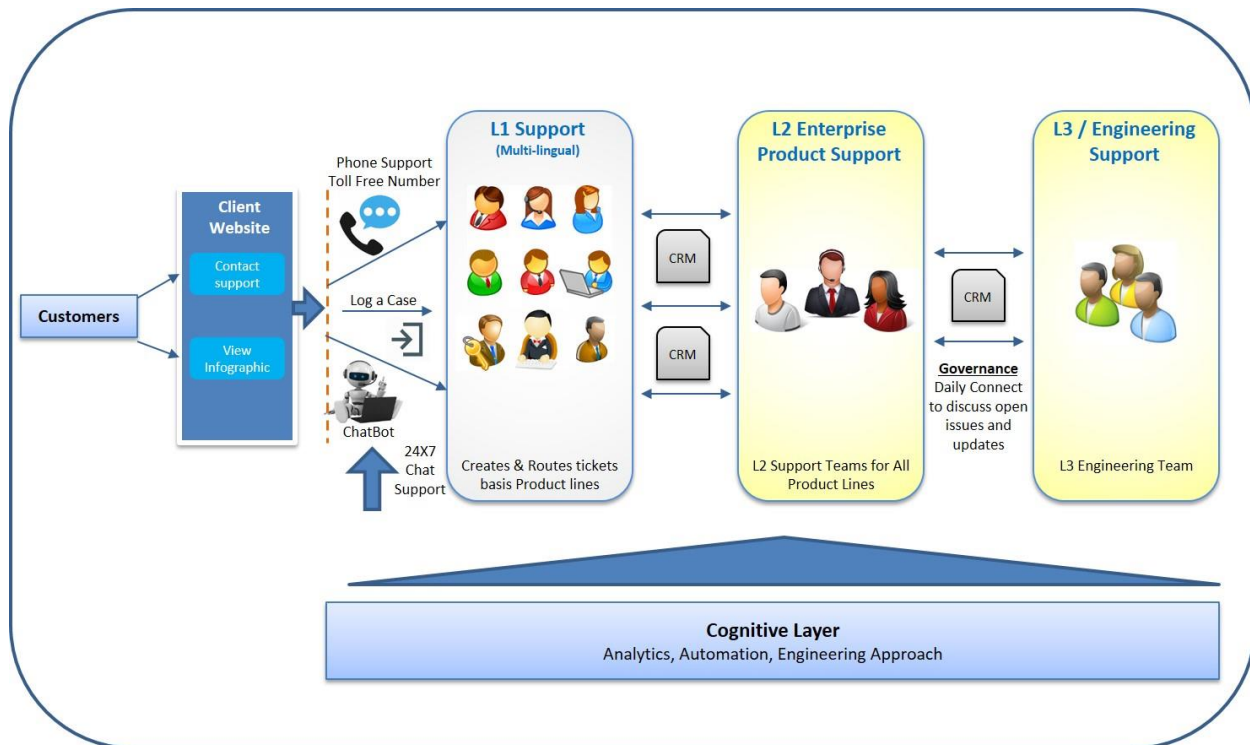
Reimagined Cognitive Software Product Support Process

The current product support process is linear with silos across channels and Level 1, Level 2, and Level 3 (see Exhibit 3). Most of the time, these silos are outsourced to different organizations with very little collaboration. Also, the current contracts encourage focus on the number of seats, costs and legacy approach rather than customer satisfaction, intelligence and outcomes.

Exhibit 3: Current Product Support Process


Source: HfS Research, HCL, 2016

The product support process can be made cognitive or intelligent by leveraging analytics, automation, and engineering approach as shown in Exhibit 4. The major changes are L1 support is preceded by chat bot, L2 and L3 support is integrated, and the whole process is made cognitive or intelligent with analytics, automation and engineering approach.

Exhibit 4: Reimagined Cognitive Product Support Process


Source: Hfs Research, HCL, 2016

Cognitive Product Support Levers

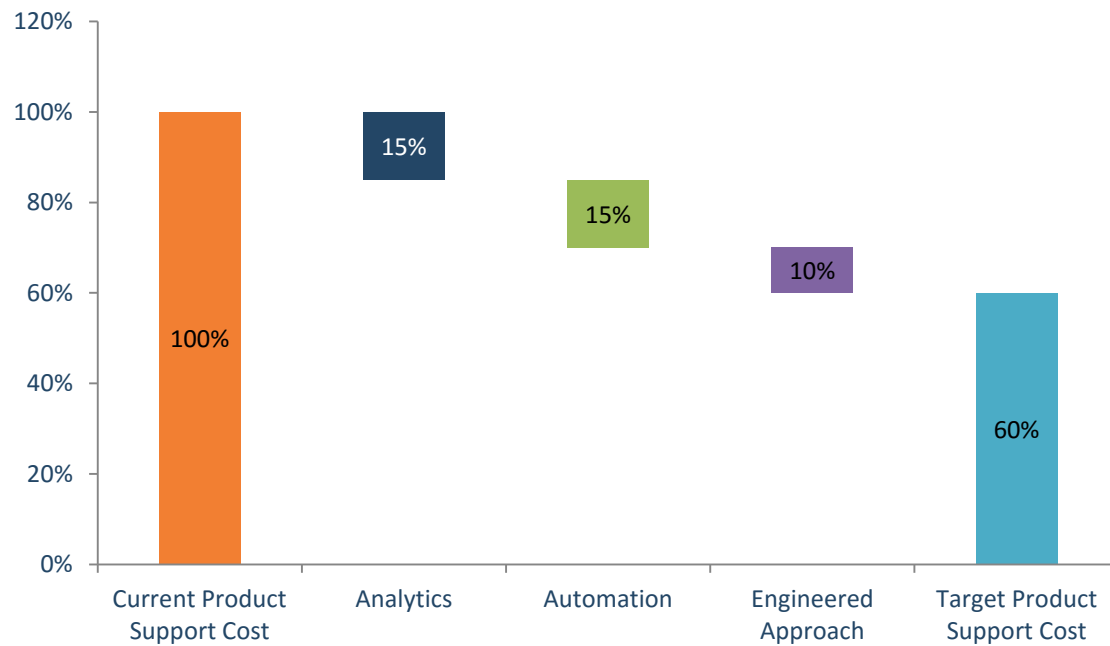
- » **Analytics:** customer history analysis, product usage analytics, predictive analytics, recommendations, sentimental analysis, knowledge/grouping, false positive detection, duplicate defect identification, log analysis, bug list prioritization, resource prioritization, leveraging text analysis, big data mining, natural language processing, etc.
- » **Automation:** chat bots, information retrieval, instant KB lookup, instant issue lookup, knowledge extraction, smarter ticket routing, triaging, automated population of product issues and updates in KBs, in real time
- » **Engineering Approach:** L2 and L3 integration, instant issue validation with ongoing engineering effort and WIP product defects, solution accelerators, reevaluating L1/L2 split with deskilling of L1

Many service providers may have point solutions to drive some of the analytics and automation, but the biggest difference is in engineering approach of service providers, which enables them to make investments in solution accelerators, preconfigured solutions, tools and technology.

Finally, it's the business outcome and productivity gains committed in the contract that will drive the adoption above cognitive product support levers. Our estimation based on case studies we discussed shows that software and high-

tech companies can save about 40% of total product support cost by moving to cognitive product support as shown in Exhibit 5. This 40% saving is over and above any labor arbitrage which service providers promise when they leverage offshore resources.

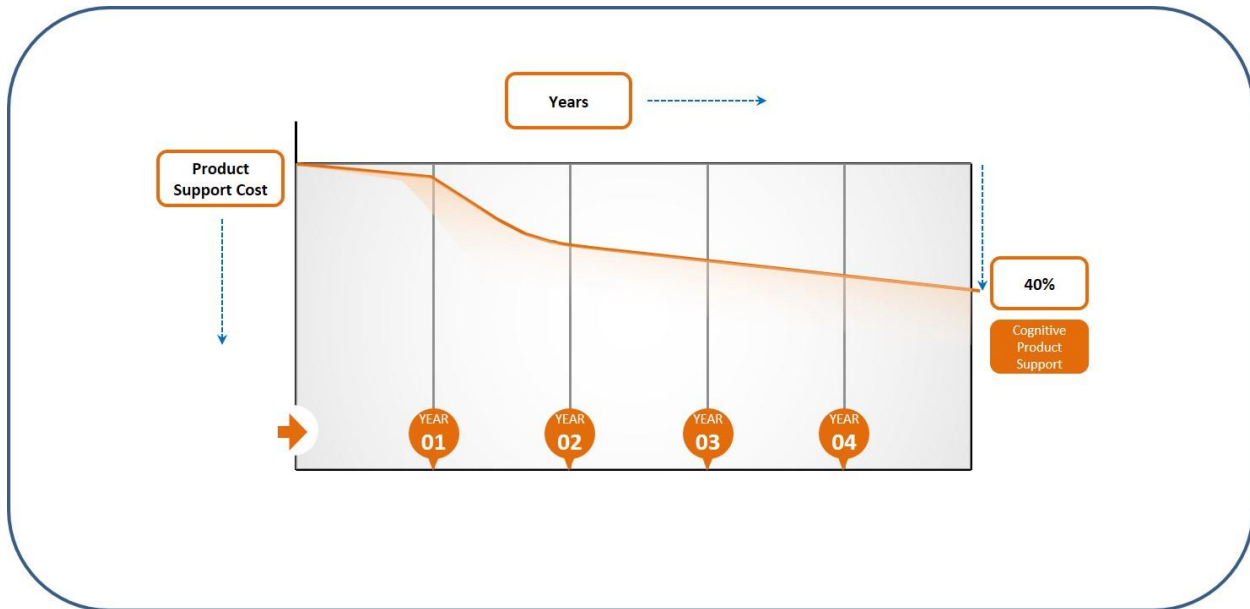
Exhibit 5: Value Proposition of Reimagined Cognitive Product Support Process



Source: HfS Research, HCL, 2016

The 40% cost savings outlined will be realized over 5 years (see Exhibit 6).

Exhibit 6: Saving Timelines of Reimagined Cognitive Product Support Process



Source: HfS Research, HCL, 2016

Apart from reduction in product support cost, cognitive product support increases customer satisfaction by

- » Reduce MTTR by increasing resolution accuracy
- » Reduction in invalid escalations to backline/frontline
- » Increase Self Service to maximum extent possible
- » Improve forecasting accuracy

Case Study of Cognitive Product Support

Cognitive product support is no longer just a theory—we're seeing live examples in the field.

Exhibit 7 shows an example of cognitive product support described to us by the engineering service provider we interviewed.

Exhibit 7: Cognitive Product Support Case Study

| Leading Mobile OS Platform |
|---|
| Improvement levers |
| <ul style="list-style-type: none">» Automation: Triaging» Analytics: Bug list prioritization» Engineering Approach: Integrating L2 & L3 support» Proactive tracking of open source bug list» Outcome based engagement model |
| Outcomes |
| <ul style="list-style-type: none">» 15-20% improvement in MTTR» About 30% productivity improvement in year 2» Expected to improve the additional productivity of ~3-5% year-on-year |

Source: HfS Research, 2016

This example highlights the role engineering service providers can play in offering cognitive product support. Engineering services providers can help software and high-tech companies achieve their product support objectives in the cost effective and timely manner. It's a win-win proposition for all stakeholders—including software and high-tech companies, product users, and engineering service providers.

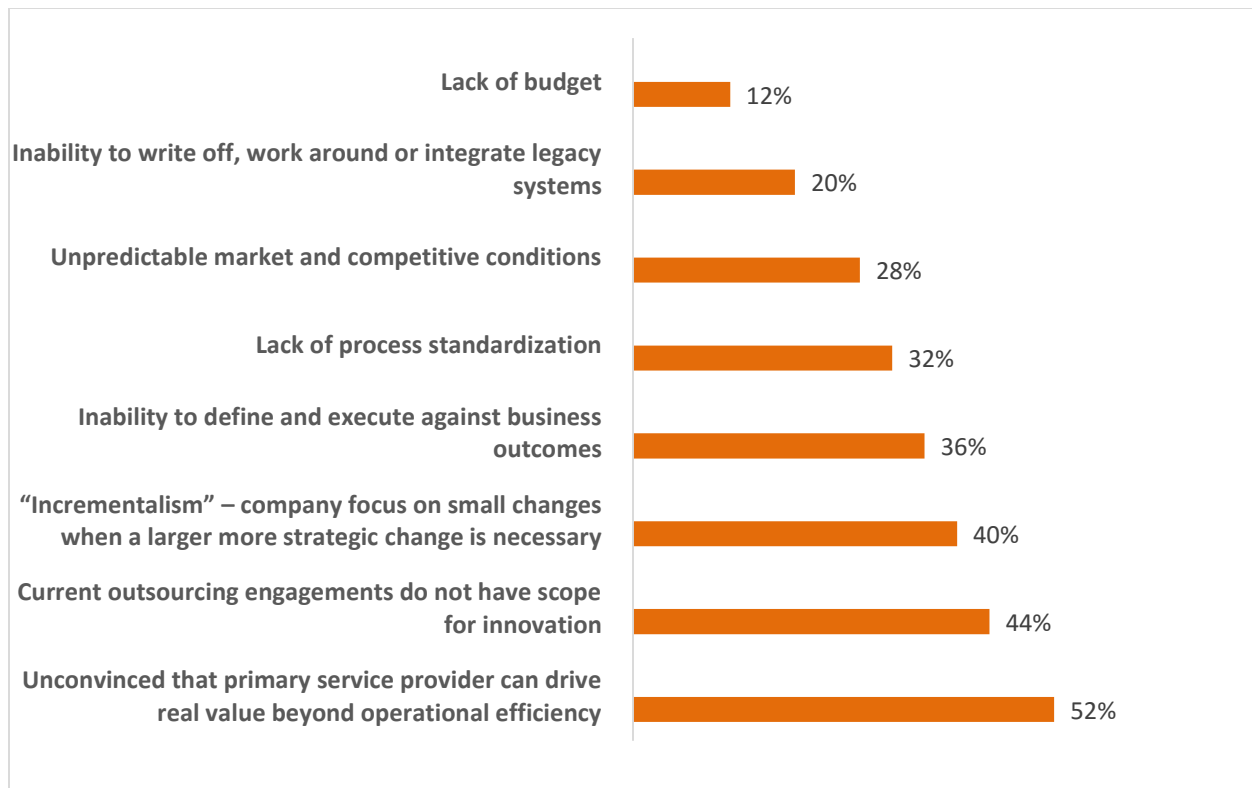
Challenges in Cognitive Software Product Support Process

In our research, we've found that biggest obstacle for software and high-tech firms in achieving cognitive or intelligent operations is their existing outsourcing relationship as discussed in Exhibit 8. For example, 52% of the respondents from software and high-tech firms are unconvinced that primary service provider can derive real value beyond operational efficiency and rate it as one of the top 3 obstacles. Similarly, 44% of the respondents believe

that their current outsourcing engagements do not have scope for innovation. The other obstacles highlighted are incrementalism where company's focus on small changes and inability to define and execute against business outcomes.

Exhibit 8: Major Challenges Faced By Software & High-Tech Customers in Achieving Cognitive/Intelligent Operations

What are the top 3 obstacles to your firm achieving more intelligent operations? [Pick top 3.]



Source: HfS Research, 2016; Sample: Software and High-Tech Buyers = 25

The above research correlates with the discussions we had with few of our buy-side customers in software and high-tech industry. These customers believe that their primary service providers though are providing the good quality support they are still using legacy ways and nothing has changed in the product support process in the last 10 years.

Advice for Software and High-Tech Firms as they Move to Provide Cognitive Product Support

1. **Cognitive product support needs to be the hero:** The effectiveness of product support processes often boils down to the importance that software and high-tech customers place in this process. The importance of cognitive product support in customer satisfaction, repurchase, feedback and the value of outsourcing partners should be highlighted across the organization.
2. **Senior executives need to be bought into the process:** Without support from senior executives, the impact of any change on the product support process can be short-circuited. Without a shared vision and an executive mandate, it can be hard to arrive at a cognitive product support approach, and it will make any transformation harder to implement, which will lower the likelihood of success. Senior executives will need to align the interests and perspectives of those various stakeholders.
3. **Relationships are a vital part of the process:** It seems trite, but it's true. Without good relationships, the process breaks down. The relationship between the supplier and the client is between the outsourced staff and the client staff, including the outsourcing partner, the engineers and other service providers in the value chain. The outsourcer needs to be part of the team. Before any contract is signed, you need to ask yourself a couple of questions: Can I work with these people? Can my staff work with them?
4. **Audit your product support process:** Make sure you gather as much information about your own product support process as possible before bringing in anyone external. This ensures that you understand the current state and that you know what problems and processes are being outsourced. This also means you can identify the main objectives you want to achieve and make sure it is in the contract.
5. **Get outsourcing partner's skin in the game:** Software and high-tech customers should get service providers' skin in the game and leverage business outcome based pricing as some of their peers are doing. We recommend customers to enter into long-term contracts with service providers which will enable service providers to plan and invest according to buyers' needs. In this way, buyers can get the best out of their service providers.
6. **Select an outsourcing partner that has knowledge of customer support, IT and product engineering:** The cognitive product support touches customer support, IT, and engineering. It will be a good idea to select service providers which have exposure and expertise in these areas as well apart from customer support. This will minimize cross-functional challenges and able to leverage best out of cognitive product support.

7. **Prefer outsourcing partner with scaled and engineering approach:** Though similar experience is valuable, it's the scale that gives any service provider an incentive to invest in standard operating procedures, solution accelerators, analytics, automation and other tools and technologies which are vital for cognitive product support. While scale gives the incentive, the engineering approach ensures that service providers are able to effectively develop these accelerators, tools and technology.
8. **Monitor product support quality proactively.** Selecting service provider is a big challenge but the bigger challenge is ensuring they work in your long term interest. This is especially true in product support where cutting corners in product support now will appear to be very costly in the repurchase decision in the next upgradation. The constant monitoring of quality of work and is very essential. Even if you decide not to outsource, proactive quality monitoring of customer support is key to the long-term success of software and high-tech product companies.
9. **The process never ends:** Make sure, whatever route you take, that include continuous improvement and have the flexibility to adoption new technologies as and when they emerge. Given the pace of development in this area, you don't want to be left with legacy technologies and processes.

Conclusion

Product support should be seen as the source of value creation by software and high-tech companies. The legacy approach of product support can let down this promise which product companies can't afford. Cognitive product support is an interesting value proposition which software and high-tech product companies should explore and leverage. It can act as a catalyst in increasing customer satisfaction while decreasing cost and time in a collaborative manner. Progressive software and high-tech product companies will not hesitate to become part of this type of collaboration and futureproof their value-driven product operations.

HfS would like to extend a special thank you to HCL for its support of this study.

About the Author

Pareekh Jain



Pareekh Jain is a Research Vice President at [HfS Research](#). He established the global engineering services practice at HfS Research which covers mechanical engineering services, embedded engineering services, software product engineering services, PLM services, and Industry 4.0. He also tracks telecom and manufacturing vertical along with outsourcing deals and runs India operations for HfS Research. He authored various industry leading engineering services research reports including HfS engineering services blueprints, HfS engineering services top 20, HfS engineering services quarterly trends, etc. He is regularly quoted in media on engineering services and outsourcing trends.

A seasoned outsourcing consultant, Pareekh has seen the engineering services outsourcing industry from three perspectives: service provider, advisor and buyer.

He started his career as a software engineer with Geometric, which gave him the service provider perspective. He was then with neoIT, an outsourcing advisory firm. At neoIT, he was a key contributor on a number of engagements with leading US and European clients, which spanned across the outsourcing lifecycle. He also produced neoIT's seminal report on city competitiveness for outsourcing. In his last assignment he gained the perspective of an outsourcing buyer as he led strategic planning, sales planning, product planning and R&D initiatives for the APAC region of Emerson Network Power—a Fortune 100 manufacturing multinational whose APAC operations are based in Kuala Lumpur, Malaysia.

Pareekh is a thought leader, having authored a variety of publications on topics related to outsourcing, engineering services, technology and regional competitiveness in outsourcing. He loves business fiction writing in his free time and his first novel "*Who is that lady?*" was published recently.

Pareekh received his MBA from the Indian Institute of Management (IIM), Bangalore and a Bachelor of Technology from the Indian Institute of Technology (IIT) Delhi.

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About HfS Research

[HfS Research](#) is The Services Research Company™—the leading analyst authority and global community for business operations and IT services. The firm helps enterprises validate their global operating models with world-class research and peer networking.

HfS Research coined the term [The As-a-Service Economy](#) to illustrate the challenges and opportunities facing enterprises needing to re-architect their operations to thrive in an age of digital disruption, while grappling with an increasingly complex global business environment. HfS created the Eight Ideals of [Being As-a-Service](#) as a guiding framework to help service buyers and providers address these challenges and seize the initiative.

With specific focus on the digitization of business processes, intelligent automation and outsourcing, HfS has deep industry expertise in healthcare, life sciences, retail, manufacturing, energy, utilities, telecommunications and financial services. HfS uses its groundbreaking [Blueprint Methodology](#)™ to evaluate the ability of service and technology providers to innovate and execute the Eight Ideals.

HfS facilitates a thriving and dynamic global community of more than 100,000 active subscribers, which adds richness to its research. In addition, HfS holds several [Service Leaders Summits](#) every year, bringing together senior service buyers, providers and technology suppliers in an intimate forum to develop collective recommendations—for the industry and add depth to the firm's research publications and analyst offerings.

Now in its tenth year of publication, HfS Research's acclaimed blog [Horses for Sources](#) is the most widely read and trusted destination for unfettered collective insight, research and open debate about sourcing industry issues and developments. Horses for Sources and the HfS network of sites receive more than a million web visits a year.

HfS was named [Analyst Firm of the Year for 2016](#), alongside Gartner and Forrester, by leading analyst observer InfluencerRelations.

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