



# New Product Development – Organizing to identify customer needs

*How to structure a product development team to identify the most important unmet needs of your B2B customers*

Chandler Hatton, Michael Kolk, Martijn Eikelenboom, Mitch Beaumont

Obtaining a deep understanding of customer needs is central to any new product development process. In Arthur D. Little's Global Innovation Excellence survey<sup>1</sup>, "Identifying customers' unmet needs" was identified as one of the most important factors for innovation success, with the best practitioners outperforming others by over 20%. Over the last decade tools and techniques for obtaining customer intelligence in B2C<sup>2</sup> industries have become increasingly sophisticated. Digitalization now provides a vast reservoir of hitherto untapped analytical data, and customers are becoming increasingly engaged in the design process itself. Companies in B2B industries<sup>3</sup>, on the other hand, have a much narrower base of customers, many of whom have regular personal interactions with their suppliers. This interaction should make the process of understanding customer needs more straightforward.

However, in practice, finding the best way to organize and manage customer interaction is anything but simple, especially when the product is technically complex. For example, often the Marketing or Sales functions "own" the customer relationship, but are they the best people to uncover highly-technical customer needs? Conversely, R&D may benefit from having first-hand contact with the customer to understand their technical needs better. But is this the right approach to nurture valuable customer relationships? After all, R&D staff are, as a general rule, not renowned for their people skills and commercial acumen. Many companies try to solve the problem by insisting on a cross-functional team approach between R&D and commercial teams. However, this can have its own challenges around ill-defined roles and responsi-

Obtaining a deep understanding of B2B customer needs is central to any new product development process. In a complex customer relationship, finding the best way to organize and manage customer interaction is anything but simple, especially when the product is technically complex. Rather than adopting a "one-size-fits-all" approach, companies need to choose the best organizational method for their particular needs. This article outlines four approaches – and the circumstances in which each should be applied.

<sup>1</sup>Getting a Better Return on Your Innovation Investment, Arthur D. Little 2012

<sup>2</sup>Business-to-consumer; businesses that market goods and services to consumers

<sup>3</sup>Business-to-business; businesses whose customers are other businesses

bilities. What are the key success factors for making B2B customer needs identification effective? And how significant is getting it right in terms of innovation success?

To help answer these questions, Arthur D. Little, together with the Eindhoven University of Technology, conducted in-depth interviews with over 30 product development leaders in 15 companies across multiple sectors<sup>4</sup> to identify effective approaches to gathering, understanding and synthesizing information related to customer needs. In this article, we review the highlights from the analysis and offer some guidance to help companies organize their customer-needs intelligence teams. Our research showed that most companies tend to either use a one-size-fits-all approach, or else approach the situation with ad hoc arrangements. However, the research also showed that “getting it right” can lead to doubling of innovation success rates and have significant impact on R&D effectiveness. This is something B2B companies cannot afford to ignore.

## **Four approaches to organizing teams for customer-needs intelligence**

First of all, it is helpful to consider what sort of typical organizational approaches companies choose when their R&D and commercial functions interact with customers. Four stereotypical approaches are commonly used, as shown in Table 1.

For simplicity, our study considered only customer interactions with the R&D and commercial functions, although in many cases the role of Operations may also be important. Also, we did not include breakthrough innovation projects, as these tend to have rather different requirements for success<sup>5</sup>.

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<sup>4</sup>The study included B2B companies from a broad range of industries including, in order of relative representation, Automotive, Manufacturing, Equipment/Machinery, Chemicals, Medical Equipment, Oil & Gas, Water Treatment, and Pharmaceuticals. The study used an exploratory, qualitative, multiple-case-study research method, using qualitative data coding in both within-case and cross-case assessments

<sup>5</sup>For more information please refer to other Arthur D. Little publications on breakthrough innovation such as Organizing for Breakthrough Innovation, Prism 2015

	<b>1. Direct R&amp;D approach:</b> R&D gathers information on customer needs first-hand through direct contact with customers, with little or no involvement from commercial functions
	<b>2. Hybrid approach:</b> a combination of direct R&D contact with customers and input from one or more commercial functions (e.g. Marketing, Sales, Technical Service, Engineering, etc.) in a cross-functional joint team
	<b>3. Indirect multichannel approach:</b> several commercial functions interact directly with the customer; each function has a specific role, depending on functional expertise; one commercial team is the customer's primary point of contact. R&D takes inputs from the commercial functions without direct customer contact
	<b>4. Indirect single-channel approach:</b> one commercial function (typically Marketing) is primarily responsible for providing R&D with information relating to customer needs



Table 1 **Four customer-needs identification approaches for B2B product development projects**

Source: Arthur D. Little

## Different types of customer needs in B2B industries

In order to decide which organizational approaches might work best in each situation, it is helpful to consider the different types of customer needs that have to be identified in B2B industries, and therefore the skill combinations that may be required within the team. Two dimensions are important in this respect:

- Whether customer needs are expressed or latent
- Whether technology needs are expressed or latent

**Expressed or Latent Customer Needs:** Latent customer needs are those which are implicit, unclear, undefined or unconscious. The apocryphal Henry Ford quote, “If I had asked people what they wanted, they would have asked for faster horses,” is an example of the importance of latent customer needs in the domain of new product development. In a B2B context, a further reason for lack of clarity and definition is that different key customers may have different needs, some of which may be clearly expressed while others are not.

**Expressed or Latent Technology Needs:** One of the features of B2B industries is that business customers may themselves possess significant technical competencies and be intimately familiar

with the products they are buying. It is therefore quite possible that B2B customers express specific technology needs in addition to more general customer needs. These technology needs may also be either clearly expressed or latent. In this sense latent means the technology need is unclear, usually because the optimal technology solution needs further development and definition.

By identifying the degree to which B2B customer needs are clear (expressed) or unclear (latent) and the degree to which technology needs are known (expressed) or unclear (latent), we can start to characterize the most appropriate skill set that a multifunctional product development team will need in order to develop a winning product.

### **Solution design skills – translating needs into product specifications**

Most seasoned professionals are adept in the recognition of expressed needs, but knowing when latent needs will impact design specifications is a challenge for commercial and technical functions alike. Though it may seem paradoxical to be certain about the uncertainty of a need, we have found that successful project teams are quite capable of making this assessment. The ability to identify latent needs and translate them into concrete product requirements can be referred to as “solution design skills.” Different situations call for different solution design skills, and the availability of the right solution design skills is of critical importance for effective needs recognition. Because latent needs are highly dependent on context and difficult to tease out of data sets, product development practitioners must be familiar with effective approaches to identifying latent needs and know when to apply a given approach.

### **Choosing the optimum organizational approach**

Companies can use the analysis above to help make informed decisions about how best to organize their teams. The four approaches described above can be mapped to the four quadrants of a “Customer Needs/Technology Needs” matrix as shown in Table 2.

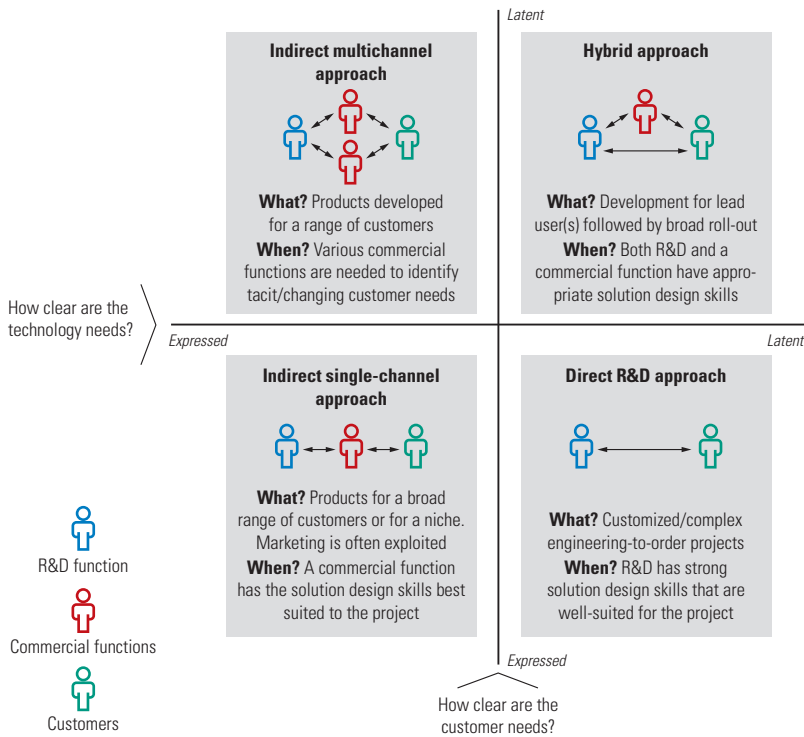


Table 2 **Optimal customer-needs intelligence approaches** Source: Arthur D. Little

As we have said, having the right solution design skills on the team to suit customer or technology needs is critically important. With this in mind we can consider each quadrant of the matrix in turn:

- **Expressed Customer and Technology Needs – Indirect single-channel approach**

In the simplest situation, both sets of needs are clear and applicable to a broad range of customers. In such cases it may not be necessary for R&D to have direct contact with the customer, and a single commercial focal point with the appropriate solution design skills may be sufficient. (See Case Example 1.)

*Advantages:* Controlled customer relations, single source of intelligence for R&D, good for non-technical solution elements

*Disadvantages:* Relies heavily on solution design skills of commercial function, may provide a one-sided perspective

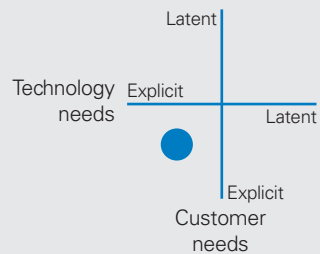
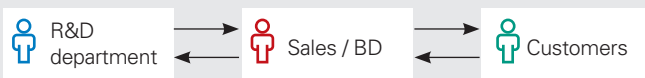
**Case example 1: indirect single-channel approach**

**Company:** A global leader in electronics for B2B and B2C markets

**New product development project:** The management team decided to pursue an entirely new B2B product in response to market signals. A project leader was selected on the basis of her solution design skills (experience in the B2B market, Business Development and Sales background).

**Organizational approach:** The B2B product was developed for a broad range of customers based on clear market demand; customer and technical needs were largely explicit. The indirect single-channel approach was therefore adopted.

**Benefits:** Benefits included extensive customer engagement, short development iterations and frequent testing of prototypes, which enabled engineers to quickly receive feedback on features and functionality. This was enhanced by the project leader’s ability to communicate effectively in facts and numbers.



**Conceptual model for Case Example 1**

- **Expressed Customer Needs, Latent Technology Needs – Direct R&D approach**

Here, the customer needs are clear but the technology needs are not. This could occur, for example, when a technically complex product is being developed to order for a single customer. In this situation, an approach in which R&D has direct contact with the customer may well be the most suitable, especially if the customer also possesses the technical competence to engage in the design process. (See Case Example 2.)

*Advantages:* First-hand integration of “Voice of the Customer” into product design, effective for technologically savvy customers

*Disadvantages:* Possible mismatch between technical and commercial issues, relies on R&D function’s interpersonal skills

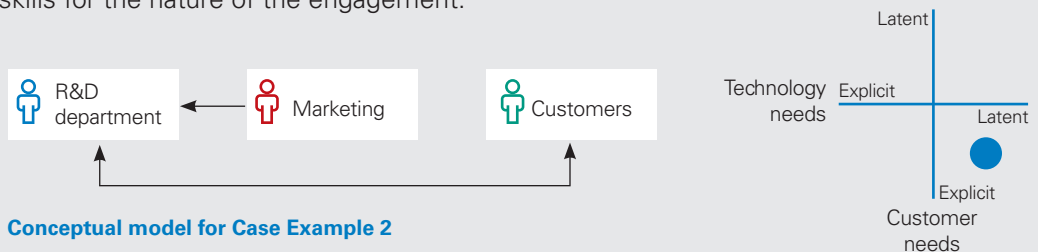
### Case example 2: Direct R&D approach

**Company:** A global supplier of wastewater treatment solutions

**New product development project:** Together with a university contact, Marketing came up with an idea for a new product for a specific customer in need of a solution. The customer needs were relatively straight forward and further clarification through market research was not required. However, the technical needs were less evident

**Organizational approach:** Marketing passed the project on to R&D, which formally initiated the new product development project. A direct R&D approach was adopted.

**Benefits:** Successful project, enhanced by effective engagement with the specific customer's technical staff. In this case R&D exhibited the most appropriate solution design skills for the nature of the engagement.



Conceptual model for Case Example 2

- **Latent Customer Needs, Expressed Technology Needs – Indirect multichannel approach**

In this situation the customer needs are not clear at the outset, although the technology requirements are known. This might be the case for, say, a major product revamp in which there are a number of different customers with differing needs, while the technological aspects of the revamp are relatively simple/known. Here, a heavier approach led by commercial functions, such as Sales and Marketing and potentially Service, may be the most suitable. (See Case Example 3.)

*Advantages:* Provides a better method for different types of needs to be captured, good for unclear or diverse customer needs

*Disadvantages:* Requires a high degree of coordination, can cause R&D to lose focus due to multiple requirements



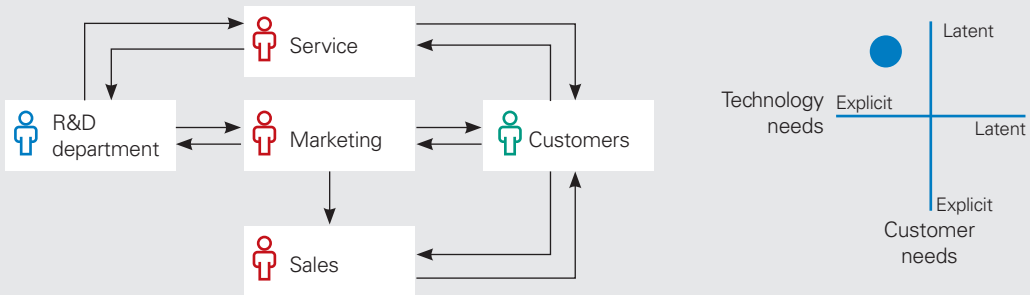
**Case example 3: Indirect multichannel approach**

**Company:** A leading supplier of imaging technology for diverse B2B customers

**New product development project:** The company decided to develop a new version of a product that had been on the market for more than 10 years. The primary focus of the new version was a cost reduction that would enable the product to be marketed to more cost-sensitive segments.

**Organizational approach:** The indirect multichannel approach was adopted. Prior customer feedback meant that the company was well aware of key technical needs. During the new product development process, both Service and Marketing gathered market intelligence from customers as input for R&D, generating a detailed market-requirements document. During development, R&D asked the Service department to validate the conceptual design with customers and provide feedback. Thereafter, a prototype was tested with an individual customer by Service. The Service function had the most market-specific knowledge, and Sales also gathered commercial information and fed this back to Marketing. Much of the dissemination was informal (and thus quick). Project meetings were highly technical and Sales and Marketing were not always present.

**Benefits:** In the end, the new product was successfully sold to multiple customers. Success relied on the solution design skills of Marketing, Sales and Service; Service's technical knowledge made them the most suitable primary point of contact with customers.



Conceptual model for Case Example 3

• **Latent Customer Needs, Latent Technology Needs – Hybrid approach**

Here, a customer need has been identified but the solution is unclear in terms of both commercial and technical aspects. An example could be a complex new product opportunity that would be developed for a key customer and then rolled out to a broader range of customers. The solution design skill set for this situation is often varied, and a truly cross-functional team

approach is often most suitable. The main downside of such an approach is the risk of miscommunication with the customer, and managing the multiplicity of goals. (See Case example 4.)

*Advantages:* Allows for “guided,” but direct, contact between R&D and the customer, good for complex need sets

*Disadvantages:* Requires a very high degree of coordination and clarity on who does what

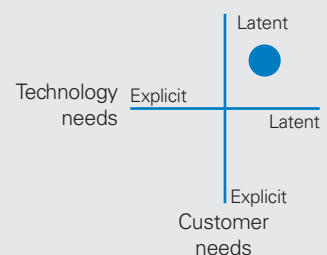
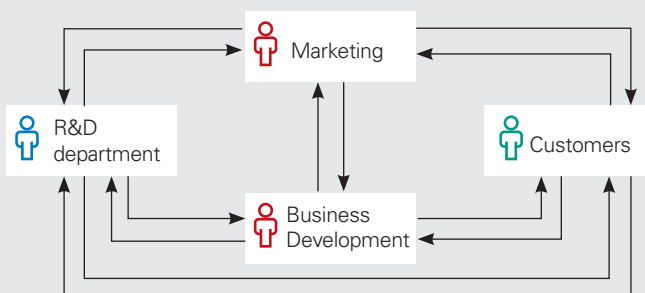
#### Case example 4: Hybrid approach

**Company:** A leading supplier of mechanical components for various industries

**New product development project:** A Sales representative identified an unmet need through frequent and in-depth communication with a key account customer. The product would be developed for the key customer, then rolled out to a broader range of customers.

**Organizational approach:** A hybrid approach was used. The Sales representative formalized the customer need in a structured document that was communicated to R&D. The structured write-up enabled Sales to pulse demand for a similar innovation with other existing customers. A decision was made to develop the product. During the development process, R&D engaged in direct contact with the original customer on technical issues while Sales maintained contact on commercial issues. Business Development (BD) also played an active role.

**Benefits:** In the end, a new product platform was launched and custom products were developed and sold to several large customers. The individuals in Sales, R&D and BD had been working together for a long time, and were very familiar with the product portfolio and had strong solution design skills. As a result, they were able to effectively establish their respective roles and focus on the commercial and technical issues that were essential to the customer.



Conceptual model for Case Example 4

## Key success factors in making it work

The approaches detailed above and their applications may seem relatively straightforward. However, the study showed that in practice few of the sample companies actually followed these optimal approaches, and most were unsatisfied with their current efforts. Analysis of the most common shortcomings revealed five key success factors:

- **Avoid “one-size-fits-all” approaches:** While one obvious conclusion from this analysis is that the right approach depends on the nature of the project, in practice many companies adopt the same one-size-fits-all customer-needs identification approach for all their projects. This means that often the wrong solution design skills and expertise are being applied.
- **Ensure good knowledge sharing:** Organizational silos, dispersed physical locations and inadequate knowledge management infrastructure may cause valuable intelligence to be lost or poorly disseminated. Irrespective of the approach selected, good knowledge sharing is essential, including use of both formal and informal processes for intelligence sharing and communication between R&D and commercial functions.
- **Be responsive and adopt regular customer interaction:** Some approaches only consider customer needs in the discovery phase, and fail to loop back to the customer during development. This can cause problems which become apparent too late in the launch phase. The most successful companies have processes that ensure customer interaction along the whole development cycle, with R&D functions that actively uses intelligence stimulated by the availability of a fact base, rather than just “opinion”.
- **Deploy the right resources:** Often the resources deployed for customer-needs identification are those who “happen to be available” or who “own” a customer relationship. These may not be the best combination of skills to suit the project.

- **Understand internal competency needs:** Many companies have not yet properly identified which competencies they need to develop and deploy, especially in the light of rapid technology development and digital convergence. Awareness of competencies needed to relate effectively to customers is essential.

## Impacts of choosing the right approach on innovation success

So how important is choosing the right approach in terms of innovation success? As part of our research we asked companies to categorize recent new-product development projects in terms of whether they used the “optimal” or “non-optimal” organizational approach (as described above), and whether these projects were “successful” in terms of reaching their objectives. The results showed that the project success rate was actually doubled by using the optimal approach (Table 3):

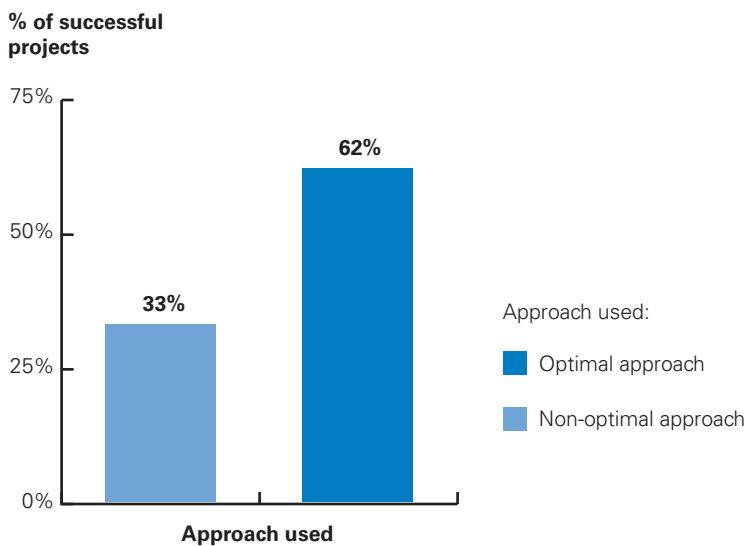


Table 3 **Innovation success rate using optimal and sub-optimal approaches to customer needs identification**

Source: Arthur D. Little

These results are quite stunning. In business terms, doubling the new-product development success rate means making better use of the R&D budget (and a sizable portion of Sales & Marketing spend too), saving a large part of whatever is now spent on unsuccessful development in both R&D and related customer interactions. Of course, these savings would only apply to a portion of the company's R&D budget – highly incremental and explorative research would probably not be affected. A conservative estimate is savings of up to 0.5% of revenues, which provides significant bottom-line impact. In addition, the company would benefit from the increased likelihood that potential block-busters become true market successes: impossible to quantify in general terms, but an excellent additional reason for companies to ensure that new-product development teams have organizational structure in which appropriate solution design skills enable customer needs to be embedded in new-product development.

## **Insight for the executive**

The inability to recognize and serve customer needs is one of the most common reasons that new products and innovations fail. B2C product development projects increasingly turn to comprehensive market data and short design iterations to hone products to the needs and wants of their target audiences. Such an approach can seem exaggerated in a B2B context, in which companies develop products to serve narrower customer bases that they are often already engaged with through regular interactions.

Yet failure of new-product development projects for B2B customers is costly, and many companies are unsatisfied with how they organize their customer interactions, especially how they integrate their R&D and commercial functions.

Our research shows that using the right team model in the right situations can have a dramatic effect, doubling the rate of success of new-product development projects. To achieve this, companies need to:

- Understand the nature of the customer needs to be identified: how clear are the general needs, how clear are the technical requirements?
- Decide which type of team approach between R&D and commercial is most suitable, depending on the needs
- Deploy the right resources based on the required solution design skills – and avoid the temptation to adopt a one-size-fits-all approach
- Ensure active knowledge sharing, including both formal and informal processes
- Encourage R&D to be responsive and engaged, stimulated by the availability of a meaningful fact-base and regular customer interaction throughout the development cycle

The solutions are relatively straightforward and the benefits are significant. Surely this is something that B2B companies in technology-intensive sectors would be well-advised to pursue?

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### **Chandler Hatton**

is a Manager in Arthur D. Little's Amsterdam office and a member of the Technology & Innovation Management and Strategy & Organization Practices.

### **Michael Kolk**

is a Partner in Arthur D. Little's Amsterdam office and a member of the Technology & Innovation Management Practice.

### **Martijn Eikelenboom**

is a Partner in Arthur D. Little's Amsterdam office, and a member of the Strategy & Organization Practice.

### **Mitch Beaumont**

is a Partner in Arthur D. Little's San Francisco office and a member of the Technology & Innovation Management Practice.