

# taktX market/technology matrix

a taktX smarttool

		how			
		existing hard and soft technologies	related hard and soft technologies	new hard and soft technologies	
who	existing market	1a	1b	1c	1d
	related market	2a	2b	2c	2d
	new market	3a	3b	3c	3d

# INSTRUCTIONS FOR THE WHO / HOW SMARTTOOL

Use the who/how smarttool in conjunction with the product/market matrix and X-matrix smarttools to help establish policy for the next 3 to 5 years.

Businesses get stuck in their thinking about who they serve (their markets) and how they serve them (their technology and methods). Most graduates of schools of engineering and business don't even know what technology is. It isn't always "hard." There are two sides –hard and soft—to the technology coin, as illustrated in the matrix at the right. In our global economy where hard technologies can be bought and sold easily, competitive advantage depends more and more on soft or management technologies, which must be homegrown as part of a business culture.

Even when businesses appreciate both hard and soft technologies, they may have difficulty imagining how either technology *changes*. Technology changes in two basic ways: 1) through straightforward applications of existing technology to new problems; and 2) through unexpected combinations of existing technology and entirely new technological ideas. By investigating opportunities for both types of innovation in existing, related, and new market segments, the who / how matrix ensures that businesses systematically chart opportunities to develop competitive advantage.

	<b>hard technology</b>	<b>soft technology</b>
existing technology related technology new technology	Hard technologies are the mechanical, hydraulic, pneumatic, electronic, chemical, biological, and computer methods and systems that are intrinsic to product design, fabrication, and delivery in your business or industry.	Soft technologies are management methods that standardize know-how about controlling the quality or efficiency of tasks and process (e.g., TQM, lean manufacturing, concurrent engineering, balanced scorecard, etc.). These methods govern how effectively an organization utilizes hard technologies.
	Existing technology is technology currently by you or others to design, fabricate, and deliver products and services for your customers.	
	Related technology consists new but straightforward applications of existing hard or soft technologies.	
	New technology consists of nonlinear developments. It is unexpected new <i>combinations</i> of existing technology or entirely new technologies in themselves.	

To complete the who / how matrix, follow these steps:

1. Analyze existing markets. An existing market is a market segment that you currently serve.
  - a. Describe customer trends in existing markets. What do existing customers want from you in terms of VALUE (see "The VALUE framework" below)?
  - b. Describe trends in innovation and identify technologies that you currently possess that you use to serve existing market segments.
  - c. Describe trends in innovation and identify technologies that are related to those, which you currently possess that you might use to serve existing market segments more effectively.
  - d. Describe trends in innovation and identify technologies that are new or "on the horizon" that you might acquire or develop to serve exiting market segments more effectively.
2. Analyze related markets.
  - a. Describe customer trends in related markets. What would customer in these markets want in terms of VALUE?
  - b. Describe innovative trends and identify technologies that you currently possess that you might use to serve related market segments.
  - c. Describe innovative trends and identify technologies that are related to those, which you currently possess that you might use to serve related market segments more effectively.
  - d. Describe innovative trends and identify technologies that are new or "on the horizon" that you might acquire or develop to serve related market segments more effectively.
3. Analyze new markets
  - a. Describe customer trends in new markets. What would customers in new segments want from you in terms of VALUE?
  - b. Describe trends and identify technologies that you currently possess that you use to serve existing market segments.
  - c. Describe trends and identify technologies that are related to those that you currently possess, which you might use to serve existing market segments more effectively.
  - d. Describe trends and identify technologies that are new or "on the horizon" that you might acquire or develop to serve exiting market segments more effectively.

*Note: Use the product/market matrix smarttool to evaluate the potential **profitability** of the innovations you envision.*

## The VALUE framework.

The true market perspective looks at creating new value from the *customer's* viewpoint. In other words, it is a matter of **VALUE**.

- a. *Varied needs satisfaction*: Fundamental customer value is provided when a product satisfies the true reasons why each customer buys it. The producer's viewpoint becomes a shift toward the production of different models. From the customer's side, only one model meets his/her needs.
- b. *Amenity*: In addition to the practical functions of a product, features that appeal to the customer's senses add value. For example, consider the self-esteem a product with a personalized design delivers, or the feeling a customer gets when getting hold of the latest technology.
- c. *Low risk*: These product features provide great value and free the customer from worry about failure or trouble. Such features also include after-sale services in case the product fails and requires immediate and complete repair.
- d. *User costs minimum*: Producers often think of a product in terms of its initial cost to the customer, or price. However, the purchase price is often only a partial cost for the customer, the tip of the iceberg. Companies should aim for a low life cycle cost to the customer.
- e. *Effective availability*: Value means customers can use the product when they need it, with no waiting. Often, people talk about shortening delivery time, a producer-oriented concept. The customer is concerned not with shortening delivery time, but with having the product available on time.

producer's viewpoint	customer's viewpoint
<ul style="list-style-type: none"> <li>• Quality: zero defects</li> <li>• Cost: product price</li> <li>• Delivery: lead time</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Varied needs satisfaction</i></li> <li>• <i>Amenity</i></li> <li>• <i>Low risk</i></li> <li>• <i>User costs minimum</i></li> <li>• <i>Effective Availability</i></li> </ul>