



## Hybrid Technologies: A Stepping Stone to the Future

**When uncertain transformation threatens an industry, jump in or do nothing are not the only options.**

Hindsight is a wonderful thing when assessing disruptive innovation, but the reality is that deciding what to do next when new technology threatens to transform an industry, may be one of the greatest challenges a firm has to face.

Decision-makers may find themselves not only second guessing whether the new technology will be adopted by business and accepted by consumers, but also estimating how long the potential disruption will take. A common fallacy suggests technological discontinuities come in great waves of creative destruction wiping out all signs of the technology before them. The greater likelihood however, is that a transformation will take years - decades even - to play out.

Knowing exactly how a disruption will evolve and when it will complete is impossible to determine, but it is a conjecture more easily and accurately made by companies on the inside participating in the transformation process.

An effective way to manage this uncertain transition period and to help shape the change is to invest in intergenerational hybrids - innovation which combines elements from potentially disruptive new products, services or business models with the status quo. Think digital SLR cameras, electric/gas cars, hybrid cloud computing architectures and

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Microsoft's Surface, which amalgamates elements of the tablet's design with the software of a personal computer (PC).

### **A stepping stone for change**

Hybrids, can act as both a placeholder for the firm in the future market and as a source of learning; giving organisations the opportunity to study the threatening technology before disruption occurs, while gaining complementary knowledge about the market and customer preferences, all of which give them a marked advantage over late-entry competitors. It's no coincidence, for example, that some of the most successful computer companies were producers of early model word processors - a hybrid device coming between electric typewriters and the introduction of the PC.

Hybrids can also help prepare customers for an industry's impending transformation. Getting consumers to alter their habits or preferences is a challenge; creating a product which includes elements of both the incumbent and new technology lets them experience the advantage of the disruptive innovation without giving up all their the old practices. It's interesting to note that a large percentage of people driving electric cars today were once owners of the Toyota Prius, a hybrid vehicle combining components of both internal

combustion and electric engines.

In some cases hybrids are used to temporarily block threatening technology by offering customers an appealing price/performance trade-off, as gas companies did with their hybrid lightbulb.

Similarly they can be used to extend the life of old technology. Kodak for instance adapted its photo printer system to gain a few years before digital printing services became popular.

At other times hybrids are created to satisfy a niche market. The Microsoft Surface, mentioned above, adopted the form of a tablet (with its size, touch screen and other features) but, unlike Apple's iPad, retained the software base of the PC. It may not suit everybody but it meets the demands of a group of people (who like the size of the smaller device but require greater functionality) as the technology continues to evolve.

### **The importance of timing**

While the purpose of most hybrids is to help companies adjust to a new landscape, more importantly they can help leaders better understand the right time to leap into new technology. At times they can even be used to stave off disruption entirely.

In 1984 MIPS Computer Systems introduced a microprocessor that used technology called "reduced instruction-set computing" or RISC. This classic disruptive innovation was simpler and faster than the CISC (complex instruction-set computing) chips used by industry leader Intel.

Intel responded in 1995 by bringing out the Pentium P6, a hybrid combining attributes of both CISC and RISC, to create a technology which is still being used in most computers today. The Pentium is an example, not only of a hybrid which endured beyond disruption, but of the importance of timing. When developing a hybrid, incumbents gain knowledge not just about the technology involved, but also about the timing of the discontinuity itself, and can avoid the common mistake of leaping into a new technology either too early or too late. By waiting 11 years after the RISC was introduced to bring out its competing technology, Intel balanced the timing factor with getting the product right.

### **Survive and prosper in the next generation**

When looking back on the transformation of a technology after the transition has completed, hybrids are often portrayed as clumsy artefacts; products of organisational inertia created by companies not fully prepared to commit. However, when we are in the middle of disruption - in that

period looking forward when firms are faced with the choice of doing nothing or committing considerable resources in the hope they get the product and the timing right – that we can see the full advantages of a third option; creating hybrid technologies or business models gives firms the opportunity to participate in the transformation process and learn about the future before making a more informed choice.

Of course, if threatening innovation fails to displace old technologies the hybrid could be seen as a waste of resources. But, as suggested in the study [Intergenerational Hybrids: Spillbacks, Spillforwards and Adapting to Technology Discontinuities](#), co-authored with Daniel C. Snow, Associate Professor of Business Administration at the Brigham Young University, there is an as great or even greater risk in taking no action at all. The cost is less than would have been experienced had the organisation taken a full step into the new technology, while the knowledge gained has the potential to improve the firm's existing products, placing it in a better position compared to late entry competitors.

As such, hybrids should be viewed as an effective but often overlooked tool available to managers facing a potentially difficult and uncertain transition. Used correctly they can be sources knowledge helping firms to survive and prosper into the next generation.



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