

Innovation: Build in-house or buy solutions?

Should you develop your new products in-house or should you outsource your innovation to an experienced third party? This is a key strategic decision.

Summary

In this article we view innovation as an investment decision, and we discuss whether the risk-adjusted return on investment is higher if you build or if you buy your innovation process. We identify three key criteria for monitoring your likely return on investment: cost, risk and 'time to market'.

We assume that your objective is to seize the initiative in your marketplace, and that you see product innovation as the means to achieve this. On the other hand, we assume that your competitors will try to imitate your most successful products, and so any development gaps will simply leave the door open for them to be 'second to market' with a rival and possibly superior product, hence product excellence is critical.

We conclude that, given the nature of innovation, you are more likely to optimise your investment and produce product and service excellence through a dedicated team, and we come up with three main reasons for this conclusion.

The first reason is that the product development process spans many functional departments. This means many hand-overs from one department to another, which increases the cost of the solution and delays the time to market. We propose a 'hub and spoke' structure whereby an 'innovation champion' together with a core team (the hub) is able to harness the positive input of each department (the spokes) and sustain the momentum of the project.

The second reason is that product development must pass through many phases before the finished solution is achieved. Each phase consists of a series of inter-dependent activities. Because much of the work is completely new it is not always possible to predict how long each activity will take, and as a result the critical activity (that with the highest priority) changes continuously. We argue that specialist project management skills are required to manage such an ambiguous development process, reinforcing the need for innovation specialists.

The third reason why innovation is best performed by a dedicated team is that innovation projects rapidly become extremely complex. In our view, only a dedicated team can manage the ambiguity involved. This is because they have the captured knowledge at their fingertips, and the management time to pursue the alternatives.

Consequently, we recommend that businesses delegate the responsibility for effective innovation to dedicated teams consisting of an 'innovation champion' and a core development team. Unless your business already has such a team in place, we believe that you will achieve a higher return on investment and superior new product and service quality if you buy-in the expertise of an experienced third party.

Innovation is an investment

Your business will only pay the product development costs if it expects to achieve a favourable return on investment, for example from differentiated products and pricing power in your market.

We believe that the three key criteria for monitoring and managing this kind of investment are:

- **Cost** – keeping your development cost low
- **Risk** – maximising your chances of a successful outcome
- **Time to market** – taking full advantage of your 'window of opportunity'

These are key performance drivers of investment return. Less cost, less risk and less time taken to get to market will all improve the return on your investment.

Having outlined the importance of your investment decision, we now turn to the particular nature of innovation, and the implications this has for the implementation process that you select.

Product development spans many departments

Organisations are structured into departments, such as finance, marketing and operations. This specialisation works well for the day-to-day execution of your business. By contrast, new product development spans many departments.

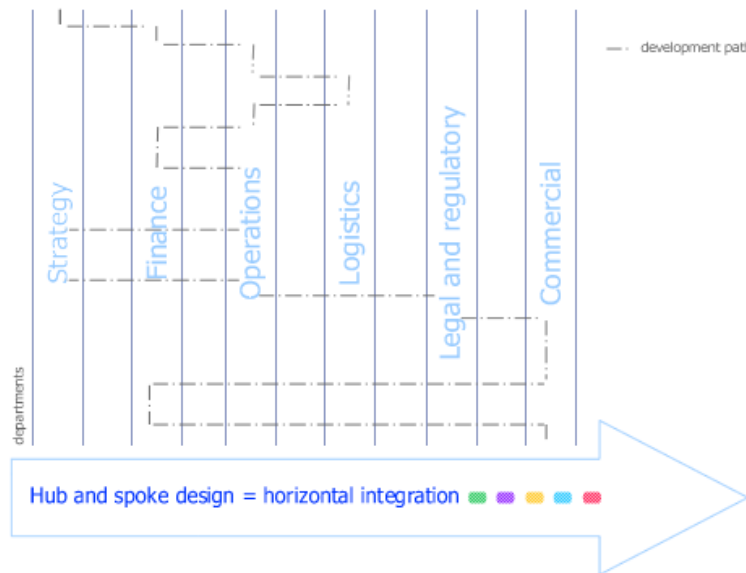
Under the traditional business structure, an evolving solution will be handed from one department to the next, each department adding its own specialised insights to the solution. Typically, each department will already have its own set of issues and pre-occupations, which leaves little management 'slack' time to devote to the complex and ambiguous challenges of new product development. Furthermore, any changes made to the marketing strategy will have implications for finance and vice-versa.

The risk is that an innovation project that tries to negotiate its way through the many departments involved will tend to get shunted backwards and forwards. Each set of changes tends to reduce the momentum behind the project, and even the greatest solution can come to be viewed as something of a nuisance.

For this reason, new product development needs a hub and spoke approach. The hub consists of an 'innovation champion' and a core team which works with each department (the spokes) in turn. This 'innovation task force' is able to incorporate the contribution of each department. It is also able to arbitrate between the conflicting objectives of the various departments involved, to produce a workable solution without compromising the overall goal of product excellence.

The hub and spoke approach helps to keep all the departments aligned, and avoids the situation where the additional workload on any one department could cause the development project to stall. We believe it is also advantageous if the innovation champion is an outsider to the organisation, since this isolates the hub from the political pressures that individual departments may exert on the project [Figure 1].

Figure 1. Product development spans many departments



Product development has many phases

We view product innovation as a phased development process, which often begins with a blank sheet of paper and is not completed until the solution is established in its intended marketplace.

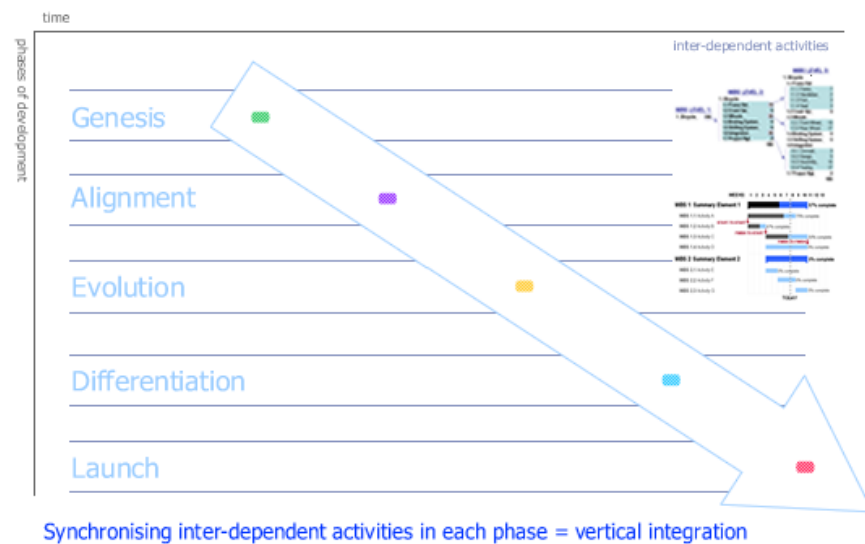
At each stage, there is a network of inter-dependent activities that must be performed. The innovation champion will plan a series of co-ordinated activities to produce the desired outcome with the most efficient combination of resources, time and funds. We describe this as 'the natural order'.

Even in the natural order, one particular activity will be the key constraint to progress (known as the bottleneck) at any time. This activity will prevent dependent activities from taking place until it has been fulfilled. At this point a new activity will find itself promoted onto the 'critical path'.

Product development consists of creating something new, so it is often impossible to determine which activities will progress smoothly and which will take longer than anticipated. This results in continuous ambiguity, shifts in priority and frequent changes in the natural order. It is an area that must be mastered to minimise the impact on time to market.

We argue that re-synchronising activities as the constraints change, solving problems quickly in order to alleviate the bottleneck and keeping the project moving forward all demand the dedication and specialist expertise of an innovation team, under the guidance of an experienced innovation champion [Figure 2].

Figure 2. Product development has many phases



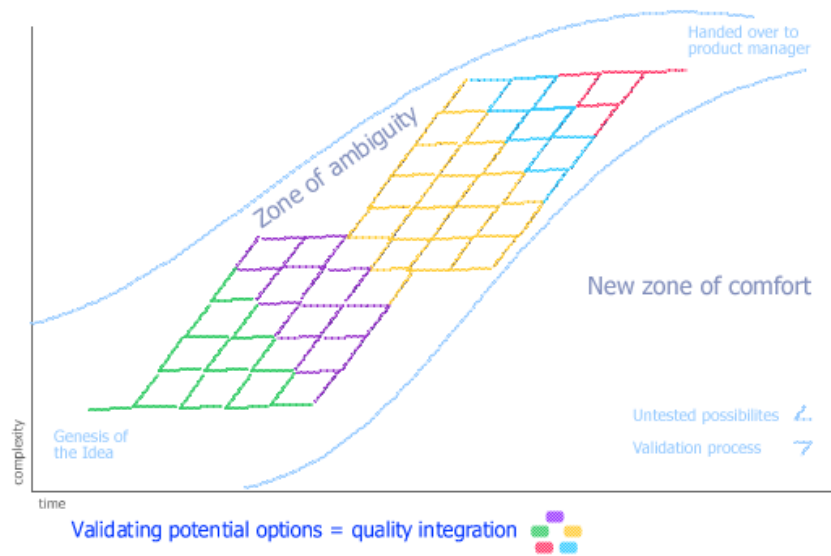
Product development is highly complex

The innovation process seeks to take advantage of the positive input from each department. The team must balance and maintain an ambiguous set of untested possibilities, which rapidly expand in size and scope and complexity. This demands a high level of focus.

Assuming that your key managers already have significantly challenging workloads, they are forced to prioritise their attention. They are unlikely to give much priority to familiarising themselves with untested and uncertain possibilities, hence the understandable temptation to curtail the breadth of development involved. This in turn could compromise the product excellence that is so imperative to effective innovation.

We argue that it is critical for the captive knowledge to reside with a central team that understands the evolution of the solution. Furthermore, the team should have the management breadth to validate their potential options, however unlikely they may appear at the outset, in search of profound and legitimate breakthrough solutions [Figure 3].

Figure 3. Product development is highly complex



Conclusion: A development team is highly effective

We conclude that entrusting new product development to a dedicated innovation team enhances your investment potential and is more likely to produce product and service excellence. We recommend delegating responsibility for your investment to an innovation team under the guidance of an innovation champion.

We arrive at this view based on three main arguments, which take into account the specific demands of the innovation process. Firstly, innovation needs to span various departments, and hence a ‘hub and spoke’ structure allows the innovation team to keep the departmental players informed and aligned. We think of this as *horizontal integration*. Secondly, each phase of development depends on a network of interdependent activities. The innovation champion needs to re-synchronise these activities continuously as the constraints change. We think of this as *vertical integration*. Thirdly, innovation projects quickly become highly complex, which demands a great deal of management focus. An innovation team which is familiar with subject and has the scope to pursue all valid lines of reasoning is essential to producing an excellent solution. We think of this as *quality integration*. Pulling these three dimensions together is what we view as an integrated solution.

Of course, if you already have the dedicated in-house development team, you will have the resources to build your innovation internally. You may still have occasional need for external consultants to add ‘surge capacity’, to cross-pollinate your ideas or to help crack a particularly difficult problem.

On the other hand, if you do not currently have such a team in place and you are seriously considering new product innovation, we believe that you are far more likely to achieve the market impact you seek by buying-in the expertise of a specialist team.