Perspective

Sustaining Innovation within the Orthopedic Industry

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Orthopedic device companies can potentially create opportunities in this challenging market environment by looking at innovation a little differently.

Over the past several years, orthopedic device companies have found the value proposition of their products under increasing scrutiny — and pushback — by regulators, payers, physicians and hospitals. Trends expected to exacerbate this challenge include an evolving relationship between the sales rep, device company and surgeon, an acceleration of hospital purchasing consolidation, and heightening interest in comparative effectiveness — all of which will likely reduce the number of options available in a particular orthopedic product class. Looking ahead, one of the biggest challenges – and opportunities — facing orthopedic device companies will be sustaining innovation.

This article briefly examines the characteristics of large, successful innovative companies and offers three simple ideas that can drive internal innovation. It also proposes several higher risk-higher reward opportunities that orthopedic device companies may consider implementing to remain innovative and relevant — by lifting a page from the drug industries playbook.

The Characteristics Of Large, Innovative Companies

Business leaders, venture capital firms and academics claim that large companies that are innovative are typically *ruthless about change*. The most successful innovative companies have the ability to keep up with technological change by skillfully navigating through a range of obstacles. They act *quickly, but not abruptly*. They *have little fear of cannibalizing their big revenue generators* to build new businesses. These companies also make *frequent — but smaller — acquisitions* that secure new technologies and open new markets. And the acquired companies are usually left to operate with considerable independence — with the acquirer ready to augment the new acquisition later.

Interestingly, the top executives at large, innovative, successful companies have a similar profile. They tend to be visionaries — and have the ability to diversify into new businesses while staying focused on a company's core. In addition, they are not afraid to make tough choices, including selling off businesses and products before they are commoditized.

As a comparison, large companies who struggle to innovate are typically bureaucratic, play too much defense, and then attempt to catch up by making significant – and many times riskier — acquisitions. As a result, top executives from the acquiring companies often meddle early and often and impose their beauracracy on the newly acquired company, stifling or delaying new business opportunities.

Three Simple Ways To Drive Innovation

Business leaders suggest that there are three specific ways that companies can generate and execute new ideas, including:

1. **Soliciting Input** – Innovative ideas come from all levels of an organization, not just from top executives. Unfortunately, at most companies, employees have little input.
   Research by Dr. Alan Robinson at the University of Massachusetts found that the average US employee's ideas — big or small — are implemented only once every six years. More innovative companies typically implement far more employee ideas — and more frequently. Professor Robinson states that senior leadership remains important – forward-thinking leaders who "allow for the culture of ideas to percolate up" and who provide the time, staff, and funding for new ideas to be executed most successfully drive innovation.
2. **Providing Workers Time For "Unofficial Activity" To Work On Creative Ideas** – Some companies provide workers with "set-aside time" to work on creative ideas. Of course, this can be expensive especially with many orthopedic device companies short-staffed due to headcount reductions. However, Robinson suggests that "when managers cut to the bone, one of the things they stifle is innovation".
   Many companies outside of the healthcare space have a policy of allowing engineers to use 20% of their time for company related projects of their choosing.
3. **Establishing A Simple Process For Executing Ideas** – Generating good ideas is easier than executing on them. Developing ideas involves a certain amount of experimentation and failure, as well as prioritization of the most promising ones. Companies need a clear process to prioritize, resource and test ideas quickly and inexpensively so they can afford to keep experimenting.

One medical device company overhauled its new-business strategy after realizing that only 15% of its ideas, developed in more of an ad-hoc approach, were meeting revenue and profit targets. The company has since appointed "innovation specialists" to lead teams working on new businesses. In addition, simple procedures and processes were instituted to track progress.

Three Other Higher Risk-Higher Reward Considerations For Remaining Innovative And Relevant

There are real opportunities for orthopedic device companies to address future challenges and opportunities by potentially lifting a page from the pharma playbook, including:

1. Experiment With A New R&D Model

a. Drug companies like GlaxoSmithKline have restructured their R&D centers in an attempt to duplicate biotech R&D principles, including replication of its “entrepreneurial environment”. Pharma companies are looking to:

- Attract and retain scientists AND innovation managers
- Hire for specific projects and maintain limited permanent staff
- Identify and access best science within disease areas — internally or externally
- Conduct limited internal research for validation of external research sources

b. Pfizer has aligned with Medical Centers of Innovation in an effort to accelerate the translation of research into medicines and feed its pipeline in a fast and cost-effective manner:

- Objective is to “put company scientists where innovation is happening and have those scientists work side-by-side with academics in the lab”
- Geographic scope of Pfizer’s network and the proposed incentive model they offer partner scientists (including higher than average post-doc salaries; significant milestone payouts; Pfizer facilitating but not directing work until proof-of-mechanism; scientists retain broad publication rights) are enhancements to new model

2. Invest – But Outside Of Your Comfort Zone

a.Consider Investing In A Start-Up or An Outside Incubator – The decline in venture capital investment in early-stage orthopedic device companies will potentially lead to an overall loss of innovation in product pipelines. Companies seeking innovation may invest in an existing start-up or set up or collaborate with an incubator — far enough away from the home office — to foster early stage work and accelerate go/no-go decision-making.
Several medical device and pharma companies have VC-arms – independent from Business Development — that make external investments. Others have “Innovation Funds” within Business Development to invest in compelling opportunities.
b.Foster Relationships and Collaborations With Nontraditional Partners – Pharma has again taken the lead in doing deals with outside investment partners (“strategic limited partnerships”; select pharma companies have also collaborated with each other on joint development opportunities to make the economics of riskier deals work.

Within the orthopedic device space, Synthes' recent collaboration with Lilly to jointly license, research and develop new and existing osteoporosis treatments offers an example of investment that was outside the norm for Synthes. Another example of non-traditional partnering would be an orthopedic device company and a payer. Here, an orthopedic company could be afforded the opportunity to take a more holistic approach to treating a disease like osteoarthritis.

3.**Emphasize Diversification** — Look to diversify into new product lines better aligned with delivering improved outcomes, and expand into non-product offerings such as consulting services and solutions. A number of orthopedic companies have also set up – or are in the process of setting up – product development/research centers in emerging markets, especially in China and India.

Sustaining innovation will be one of the biggest challenges and opportunities facing orthopedic device companies. Maintaining the status quo will simply not be an effective go-forward strategy. Orthopedic companies who a) benchmark larger, successful innovative companies, b) implement simple ideas to drive internal innovation and c) remain open-minded to potential investments slightly outside of their comfort zone, will continue to thrive in a challenging health care environment.

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