



Staying Ahead of the Growth Curve

*How medical device leaders
successfully manage their growth
portfolio*

ANKUR **AGRAWAL**

RUTH **DE BACKER**

BILL **HUYETT**

FREDERICK **SOO**

DELPHINE **ZURKIYA**

INTRODUCTION

Historically medical device manufacturers (MDMs) have not invested in developing their growth portfolio management capabilities, in large part because they didn't need to. Market conditions were stable, competition was manageable and growth steady enough that systematic portfolio management was a low priority capability compared to engineering innovation. Medical device production is also less capital intensive than many other heavy industries, meaning that capital allocation trade-offs among products were often not as necessary.

Finally, the regulatory, market and manufacturing hurdles to launch a new product was much lower than in industries such as pharmaceuticals, allowing MDMs to place many bets with a large, often unmanaged, portfolio.

A number of factors indicate that the halcyon days may be over, with several new market trends impacting the status quo:

- Pricing pressure in mature markets from health-care reform, where the cost and value of devices are getting greater scrutiny from payors, corporatized providers and health systems.
- Providers that no longer view technical advances in device technology as necessarily justifying their purchase. Providers (and even customers) are now seeking value-creating solutions with demonstrable better patient outcomes, better patient experience, better value, or helping them to achieve greater productivity.
- MDMs have historically not been very disciplined at end-of-life strategy for their product lines, leading to an exponential explosion of SKUs to produce and maintain. This means that a large % of innovation investments (for some companies as large as 40-60%) are now locked into maintenance and sustaining engineering.
- Device lifecycles themselves are shortening as competition is intensifying, in part due to low cost entrants from China and India (e.g. MindRay).

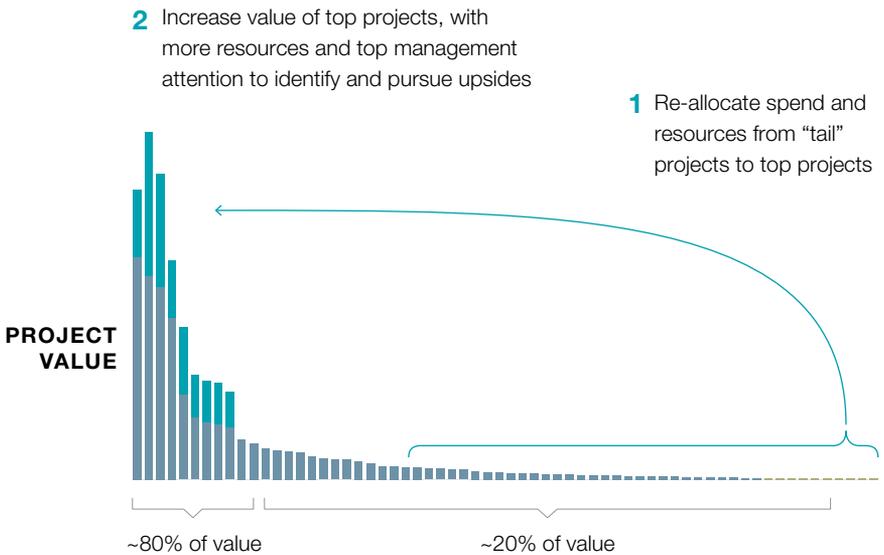
This leaves many medical device companies with a large and complex portfolio of initiatives that are mismatched to market needs and with a large variation in value creation. While the organization (and top management) should focus their time and resources on the top projects that contribute the majority of value, they often are distracted by the “tail” (*Exhibit 1*). In our experience, the tail can be as big as ~80% of the current growth initiatives (in number and spend), and yet only yield ~20% of the value.

These factors are conspiring to require MDMs to take a close look at their portfolio and employ a much more transparent, granular and end-to-end approach to portfolio management, and resource allocation across initiatives. It also forces them to look beyond R&D initiatives for value creation, since growth commercial initiatives (e.g., new sales channels, new business models) can often yield higher, and shorter term returns, when the technology is maturing.

What is the impact of growth portfolio management, if done well? Our analysis shows that those manufacturers that engage in active resource allocation earned, on average, 50 percent

Exhibit 1: High resource allocators actively manage their growth portfolio

Histogram of growth projects, sorted by project value



higher total returns to shareholders annually than companies in the bottom half¹. In large part this is because they focus their time, energy and resources on the right projects and the right markets, where growth resides.

Granular growth portfolio management can help MDMs find pockets of rapid growth and future value in otherwise mature markets.

The catch: end-to-end portfolio management requires MDMs to re-orient their business from one that is engineering/R&D-centric to a model that is market and customer-centric. How do you make this shift? In working with medical device clients we have identified six lessons learned that can help MDMs evolve their portfolio management capabilities to support growth.

LESSON 1 INVITE EVERYONE TO THE PARTY

Despite reflecting world-class R&D and engineering capabilities, many devices are actually poorly matched to the market—a cool product in search of an unclear market.

Successful MDMs will review their high profile growth initiatives as a true cross-functional team and challenge themselves to achieve a much higher value for their top project. Leadership in engineering/R&D, marketing, design, sales, services, clinical, and supply chain are expect-

ed to uncover upside opportunities, regardless of where the product idea originated. Often, a field service engineer will hear a lot more about how a product should be designed than a product marketer. Throughout development, they review high profile initiatives with the sales leads to ensure that novel go-to-market or channel strategies have not been overlooked. In our experience, this collective problem solving can help achieve up to a 20-30% NPV upside on high profile initiatives.

LESSON 2 FOCUS PORTFOLIO DISCUSSIONS ON IDENTIFYING VALUE UPSIDE

We frequently hear that portfolio discussions do not yield any meaningful actions or insights because there is a lot of complex and technical information delivered, but not enough discussion of true value creation potential. As a result, executives can rarely help teams identify downside and upside opportunities, at an initiative level. The portfolio discussion becomes at best a way to triage initiatives (without adding any value to the initiative itself), and at worse a waste of time for

everyone involved since no initiatives ever gets challenged or killed. To ensure that portfolio discussions *create value* MDMs can:

DEMAND that teams state their most heroic assumptions for the success of their initiative upfront, and create a culture where it is ok to challenge and be challenged. These assumptions need to be justified, or revised if they are not realistic.

REDESIGN financial reporting around value creation, using NPV and value waterfalls. For initiatives that are in very early stage, NPV can be challenging to calculate, so teams can use market size, market growth and predicted market share as a proxy for value potential.

INSIST that product concepts be explained with 'elevator pitch' simplic-

ity and that assumptions are clearly stated in the business case not in financial tables and complex documents. This allows cross-functional executives to help teams challenge their assumptions, to collectively problem solve and make the business case stronger.

USE an "initiative" check-list to challenge and improve the case (*Exhibit 2*).

Exhibit 2: Discussion questions to identify value upside for an initiative



WHAT are the most heroic assumptions in this business case? **WHAT** would it take to triple the NPV?



HOW can we accelerate time to market? **HOW** will NPV be affected if we accelerate by 6 months?



HOW sensitive are market segment price/volume assumptions to competition, execution, and external factors?



WHO are the customer segments we are targeting with this offering? **WHAT** unmet needs are we addressing?



WHAT are the regulatory hurdles, how do they affect value and **HOW** can we overcome them? **WHAT** are the clinical proof points to differentiate ourselves from competitors? **IS** our spending on clinical trials sufficient?



WHAT are the success factors for a successful launch? **ARE** pre-launch spending levels sufficient? **IS** the sales force size and training appropriate for the launch plan?



WHAT can happen if we don't undertake this project?

LESSON 3 PUT NUTS AND BOLTS BUSINESS BASICS FIRST

Every initiative in the pipeline should be backed by a solid business case. Though MDMs have complex reporting systems to track very granular R&D milestones and device production, basic information such as value propositions, customer benefits, valuation, and identification of upside/downside opportunities (and associate resource needs) were not readily available. Furthermore, when this information did exist in the organization, it was often in dispersed in disparate systems, and measured very differently across BUs (and even projects). This was especially true of R&D vs. commercial initiatives. This made it difficult to see gaps, overlaps or developing risks across the portfolio. To address these issues, high performing MDMs typically:

SET standards and expectations for

accurate and timely reporting of basic market, financial and risk information.

MANDATE that a standardized business case be created. Business cases include necessary information such as value proposition, marketing plans, value waterfall, pro-forma P&L with sign-off from major functions (especially sales), upside-downside projections, and risk assessments. The business case is adapted to each stages of a project, requiring only a “light” set of inputs in concept stages, to full pro-forma P&L by geography right before the launch.

RETIRE redundant tools and reporting mechanisms that do not focus on value or tie back to business strategy to free up resources.

LESSON 4 OVER TIME, RE-ALLOCATE RESOURCES BASED ON TRUE BUSINESS PERFORMANCE

Getting business cases more accurate and standardized, especially across R&D and commercial initiatives, is an important first step to make better resource allocation decisions across the portfolio.

However, there will always be an inherent asymmetry of information and business case accuracy between commercial and R&D initiatives. Why? Commercial initiatives have a much shorter development cycle than R&D initiatives. This

means that they have access to more accurate market data, but also that their actual performance (vs. predicted performance) can be measured in months vs. years. One of the consequences is that commercial initiatives will tend to understate their value potential, given that incentives are tied to achieving predicted targets usually in the next year. In contrast, R&D initiatives will tend to overstate their value potential since it usually impacts the funding amount, while incentives are not as directly linked

to the accuracy of their predictions.

Therefore more sophisticated MDMs tend to allocate resources over time based on true performance, and ensure the quality of business cases improves with over time. To do so, a portfolio review process needs to track performance over the lifecycle of initiatives, so that initiative owners are kept accountable, and executives can learn to correct for under- and over- optimistic predictions when making funding decisions.

LESSON 5 MAKE PORTFOLIO MANAGEMENT THE RULE, NOT THE EXCEPTION

There will always be nostalgia for ‘the good old days’ when portfolio management was not used, so ongoing effort is needed to change mindsets and behaviors across the organization. Institutionalizing a portfolio-model should include:

DEDICATING portfolio managers with formal responsibilities to underpin, track and identify actions for leadership to take on the growth portfolio to increase value creation.

COACHING leadership to actively campaign for portfolio management, for example, by upholding business case standards and forging cross-functional conversations.

IDENTIFYING initiative owners and giving them the responsibility, accountability and credit for gathering, validating and challenging portfolio data.

DEFINING clear processes to embed portfolio management in the business rhythm of the company. We typically see successful MDMs review their portfolio semi-annually. The first meeting will be timed to help with strategic planning decisions, and the second meeting will be timed to help with annual operating plan decisions (and therefore immediate resource allocation).

USE specialized portfolio management tools (e.g., see *Sidebar*).

THE NEW TOOLS OF PORTFOLIO MANAGEMENT

Specialized portfolio management tools (e.g., McKinsey Portfolio Explorer) can be very powerful to help MDMs get their portfolio right (after they've had a chance to define roles, responsibilities and processes). These can be light-weight, tailored to the organization, and provide several advantages overall traditional spreadsheets, or more specialized project management tools, including:

- Business cases built around value creation and business fundamentals across all project types (R&D, commercial, M&A)
- Web-based forms adapt to simple and complex business cases to minimize reporting overhead (e.g. simple case for early-stage projects, complex case for later stage projects)
- Scalable deployment to hundreds of projects with centralized repository for quick access, data quality control and analysis
- Real-time executive views designed to facilitate managerial decision-making, including strategic 'trees' (value against strategies), pivoting views to 'rack and stack' projects by value, risk, timing, etc, granular value 'heat maps' and risk-time-value 'bubble charts'
- Ability to simulate different portfolio scenarios and outcomes, and test the effect of managerial decisions
- Retrospective views of data for post-mortem performance analysis

LESSON 6 GET OVER YOUR BIASES

Active portfolio management is a new way of thinking for many MDMs, thus leaders need tactics to overcome managerial biases against it. Successful approaches we have seen begin with putting in place strong portfolio managers that can forge cross-functional collaboration and constructive debate around value and business assumptions. Supporting tactics also include:

COACHING executive teams on managing for future value and growth rather than against budgets—this usually leads to bolder decisions since a BU that has historically been allocated a steady R&D budget will now need to justify that budget in light of the value it creates.

USING red-team/blue-team and other methods to pressure test business models and decisions.

CONDUCTING executive challenge sessions, where initiative owners have to defend the business case in front of management, with a goal to uncover both downsides and upsides, and make bold decisions on resource allocation as a result.

TRACK target vs. actuals, and conduct systematic post-mortem reviews to identify prediction biases and

increase accountability.

Many companies believe they have solid portfolio management systems in place, or well on their way to implementing them. Yet, our perspective is that most are fairly superficial. To determine if more investment in portfolio management capabilities is needed consider asking yourself the following:

- 1 Do you know how much value (i.e., NPV) is in your current growth pipeline? Is it enough to cover your current business valuation (assuming most of your current revenues will get cannibalized by your new pipeline)?
- 2 If you had an aspiration to grow the value of your company by 50%, do you know where to find upside and what actions to take?
- 3 How is your portfolio aligned against your strategy (i.e., are you investing your innovation money against the strategic priorities you've identified)? Ideally you should understand how your portfolio the portfolio management processes should encompass geographies, risk, time, market segment, sustaining vs. innovative products.

CASE STUDY

Major medical device manufacturer

One large device manufacturer typically had 200+ projects at various stages across its R&D and commercial organizations. However, it did not have a consistent view of its portfolio as every project had different standards to measure value creation, and some didn't even have a business case (even in late stage of development). Also, too often the value proposition of most projects was in the "head" of managers. Since executives did not truly understand the hypotheses on value creation, nor the target market, customers and value proposition, they were not in a position to challenge teams, and therefore kill low ROI projects.

The company decided to radically revamp their portfolio management approach by creating new portfolio manager roles, mandating a consistent process and business case template. It also held semi-annual portfolio reviews in cascade (BUs first, then roll-up at corporate level). This "new way" led to many new insights, decisions and actions to ultimately increase the value creation potential. Some examples include:

EXECUTIVES FOUND THAT THE CURRENT GROWTH PIPELINE WAS ONLY

COVERING ~50% OF THE COMPANY'S CURRENT VALUATION. This was a serious wake-up call to stop low ROI tail projects, and re-invest ~20% of its total innovation budget in new high-growth/high ROI projects.

ABOUT ~50% OF PROJECTS DID NOT FIT IN ANY OF THE STRATEGIC PRIORITIES. Again, this was a wake-up call to (1) challenge their strategy, and (2) kill projects that did not fit in the strategic direction of the company.

TOO OFTEN BUSINESS CASES CREATED BY R&D TEAMS HAD PLACEHOLDERS FOR MARKETING AND SALES LINE ITEMS. In one case, a low-end product for the China market assumed a standard sales expense from the US market. Not only did this under-estimate the NPV (sales channels in China were typically less costly), it also meant that the go to market strategy was a huge risk. This product needed a new go to market approach with new distributors, and this could not be achieved in 1-2 months prior to launch. The portfolio review forced R&D and sales to proactively create a plan.

- 4 If you draw the pareto, how many of your growth R&D and commercial initiatives represent the top 80% of value creation? How much resources are consumed in the “tail” (the rest of the projects, representing only 20% of value creation)? If you could re-allocate 20% of spend from the tail to top projects, how much upside could you achieve?
- 5 For all your top projects, do you know what the most heroic assumptions are? The upside opportunities and risks should be clear, as well as market trends and project interdependencies that could shift priorities.
- 6 How much transparency does your entire leadership team have on the pipeline, and the details of your top ~20 projects? Are markets/sales involved early enough to underpin the business case? There should be one consensus version of the truth regarding the project’s value and alignment to strategy.
- 7 Do you have the ability to carry out portfolio decisions? Necessary components include an executive team knowledgeable about and committed to a portfolio approach, as well as strong portfolio leaders and supporting processes.

CONCLUSION

Device manufacturers’ growth in a post-reform era will hinge on their ability to re-orient their business models to be more customer- and market-centric. Deeper portfolio management capabilities are a necessary component of the transition, helping companies find new markets, assess the value creation potential of new products, and balance short- and long-term horizons.

NOTES

- 1 [“Enough with Playing at the Margins: Actively re-allocating resources creates lasting value in medtech,”](#) De Backer, Remissong, Zurkiya, *Finding the Edge*, 50-57, November 2013