Portfolio Manufacturing

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This article provides one way of looking at portfolio management. “Manufacturing” is not a term or a function that rests easily with the objective of investment portfolio management. The objective of portfolio manufacturing is to implement research in portfolios within client guidelines as consistently and efficiently as possible.

Research drives investment performance. Portfolios are the distillation of the best investment research available that meets the goals, objectives, and desires of each client. Investment strategies, asset allocations, and security selection come from research but have to be implemented in portfolios by managers and processes. Remember, good implementation can’t help poor research, but poor implementation can fail good research.

Many large investment organizations, including trust departments, brokerage firms, and investment managers, are making significant structural changes to their portfolio management processes. They favor open architecture, drawing on internal and external investment research and models, a more-centralized portfolio management group, and a portfolio-manufacturing platform and process. They all are striving to continuously achieve a more consistent and high-quality customized portfolio for each client at an overall lower cost to the institution.

The Role of Technology
Technology is a major source of change in portfolio management.

Consider the following reasonably new and available capabilities:
- The capability to digitize and communicate massive amounts of data
- The Internet: A free and efficient global computer network
- Doubling of the calculating and processing speeds of computers every two years
- The ability to create complex and large software routines

These plus other developments have forced many diverse industries to create processes to utilize these technologies in ways to enhance profitability, product/service quality, and competitiveness.

Technology is forcing the art of portfolio management into becoming a new-age manufacturing process, a science. Many investment management software vendors have created or expanded their software platforms to accommodate some of the necessary capabilities. From spreadsheet replication to tax optimization, vendors have created platforms for portfolio manufacturing with some of the best capabilities and products coming from three types of platforms: the compliance and trade order management sectors; several new investment management system vendors that mostly have been purchased by larger portfolio accounting and management companies; and private bank and accounting platforms from the United States and Europe—but large disparities exist among capabilities. However, the association of these developing portfolio-manufacturing technology platforms with other developments such as algorithmic trading, XBRL—extensible business reporting language for financial information—and new ultrapowerful large-scale stream processing systems could spur further evolution into new areas such as algorithmic portfolio management.

Where Does Portfolio Manufacturing Fit?

Because of the demands of scale and complexity, one of the areas in the investment management industry where portfolio-manufacturing process philosophy is most applicable is the highly competitive and growing wealth management sector. Wealth management involves thousands of multihierarchy portfolios with differing tax regimes and dozens of asset classes and investment sector choices all requiring discipline and consistency. It also can cover a multitude of different processes and goals. Interestingly, new large integrated wealth-management platforms are being offered as application service providers (ASPs) to banks and independent brokers that offer a complete suite of capabilities from proposal generation to reporting. However, as we define it, portfolio manufacturing is a core process that covers only a few areas of wealth management business requirements.

We do not include the following functions as part of portfolio manufacturing:
- the marketing and sales process or asset-accumulation phase
- proposal generation
- investment research
- trade order management
- client and management reporting
- performance measurement
>> “PORTFOLIO MANUFACTURING” CONTINUED

- account administration, reconciliation, and billing
- clearing and custody

Portfolio manufacturing, however, is a centerpiece of the wealth-management process because it focuses on the following:
- Assembling the best investment and client research data for each portfolio
- Managing the constant flow of diverse types of investment research data from many internal and external sources, often called model management
- Conducting constant quality control and review on all portfolios
- Rebalancing portfolios on an as-needed basis, utilizing multiple techniques such as replication and optimization to generate trade orders
- Ensuring these orders are valid and approved correctly

- Finally, administering all these steps using a systematic, integrated, and efficient process

Data
We are able to significantly automate and systematize the portfolio-management process largely because of our capability to digitize, accumulate, manage, convey, validate, and utilize large amounts of data. For most portfolio-manufacturing platform vendors, client investment policy statements can be quantified into asset allocations, return expectations, risk tolerances, tax requirements, product and manager choices, client preferences (including restricted or prohibited investment types or securities), and client relationship hierarchies within households and accounts. As technology advanced and clients demanded more diverse and higher-performing investment products and services, investment managers and providers opened the architecture of their distribution platforms to embrace external managers and their products. Open architecture required quantified investment research data to flow between investment managers and sponsor portfolio-management client-centric platforms. Investment research could include investment models of differing levels of hierarchy from asset allocations to security selection, security buy lists, or ranking lists for different types of securities, alpha estimates, and risk models.

Model Management
The growth in the use of the investment model as a primary product package of the capability of investment research firms also is contributing significantly to the forced change of process. Overlay managers pioneered the procedure of receiv-
Filter for Non-conforming Portfolios

Rebalance - Trade Generation
Replication
Compliance
Tax
Optimization

Trade Validation and Approval

Trade Order Management System

Client Data

Investment Data

Model Management

FIGURE 2 A Portfolio Manufacturing Process

ing only the investment manager’s investment intellectual capital, usually a model, and utilizing it in their own active or passive rebalancing or overlay software platform, managing the total portfolio. The overlay manager would use multiple models for multiple asset classes to structure diversified portfolios customized for clients. Investment managers would be paid a lower fee than the normal account management fee but their administrative and “portfolio management” costs could be significantly less and profitability could be greater. Model management fast is becoming a headline feature of portfolio-manufacturing platforms, providing the ability to receive, store, and integrate investment research with the manufacturing core process, as well as the ability to calculate performance and catalogue statistics on research and models sent to the platform. Besides models, other research and strategic data such as a manager’s buy list or universe rankings, risk models, asset and sector allocation strategies, and security substitution lists, now can be utilized by some manufacturing platforms.

Management by Exception Process and Quality Control
Sophisticated manufacturing platforms are being developed to automatically review every portfolio daily or ad hoc for adherence to client requirements and the most recent investment strategies and models. Platforms have collected or formulated a set of portfolio and compliance statistics and maintain a rules library that allows the user to filter groups of portfolios for nonconformance to these statistics within customized bands. Tracking error and other dispersion from model statistics as well as risk model(s) compliance bands, client investment policy mandated asset class and security constraints, and other portfolio statistics, can be used to find nonconforming portfolios that need to be rebalanced. The filtering process should be automatic and can be done in batches or ad hoc targeting either singles or groups. New and terminated portfolios, as well as portfolios with contributions, withdrawals, and other client-driven actions requiring portfolio changes, also would generate exception processing. Quality control of each portfolio is a critical step as an initiator in the portfolio manufacturing order generation process.

Portfolio Manufacturing Core—Order Generation Process
The primary function of the manufacturing process is to automatically review portfolios and to generate changes that continually improve
There’s no doubt that in manufacturing we’re seeing some basic changes in philosophy and in systems that may be comparable to the industrial revolution of the 1920s. One of the most significant changes is the emphasis on efficiency and productivity. This is achieved through the use of manufacturing processes that are designed to optimize efficiency, not just to produce but to maximize productivity. In the past, manufacturing processes were designed to increase productivity through the use of labor and capital. Today, the focus is on automation and the use of technology to improve efficiency.

Order Validation, Approval, and Trade

Once the orders are generated, they should be validated and approved, although a perfect manufacturing process could render this unnecessary. The trade orders generated by the core manufacturing obviously have to be traded; in many cases a trade order management system (OMS) receives the orders and the trading desk of the organization executes the trades. Several manufacturing platform foundations originally were OMS while some vendors have built out their own OMS and integrated it to their manufacturing platform. The trade desk has to abide by its own compliance and control sequences and, at least with large separately managed account investment managers and sponsors, trade rotation has to be operable and documented. Audit and accountability are vital concerns in both the manufacturing and trading process.

In Conclusion: Optimize the Process

In one of his last interviews before his death, the great management philosopher Peter Drucker observed that these changes in manufacturing were fundamental:

But there’s no doubt that in manufacturing we’re seeing some basic changes in philosophy and

in systems that may be comparable to the industrial revolution of the 1920s. The changes are coming, not by computerizing and automating production in the literal sense, but by systematizing production. In the past, the way to increase your productivity was to specialize. Today we design manufacturing and to some extent distribution not so much to maximize it but to optimize it.1

Optimization is a continuous process in itself. To optimize capability and efficiency, manufacturing platforms require well-designed processes for adoption and operation that most likely include restructuring the groups responsible for portfolio management in the organization. This involves senior management establishing a culture that supports change and continuous improvement. Jobs and responsibilities will change. Several trust banks have downsized and centralized their portfolio-management functions using a manufacturing platform, and some portfolio managers have become more relationship managers.

The restructuring effort requires the involvement of senior-level management and complete endorsement of the vision, a good deal of conviction and courage to stay the course, and the leadership to institute a manufacturing-type process and discipline into portfolio management.

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Endnote