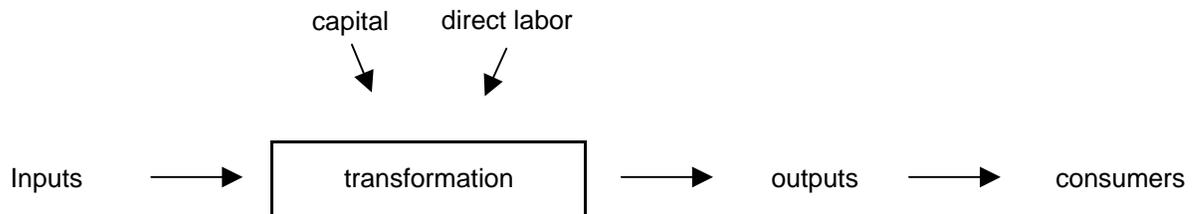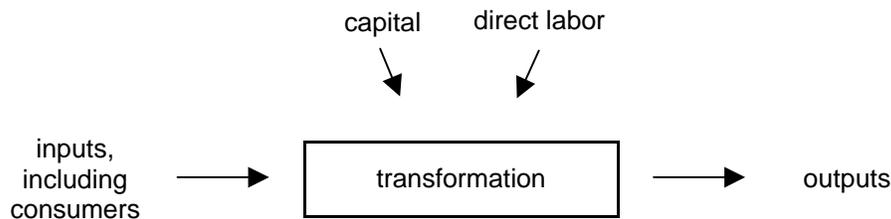# An Overview of "Management"

Any productive institution –whether publicly or privately held, whether in search of monetary gain or not – can be modeled reasonably well by one of the following diagrams:

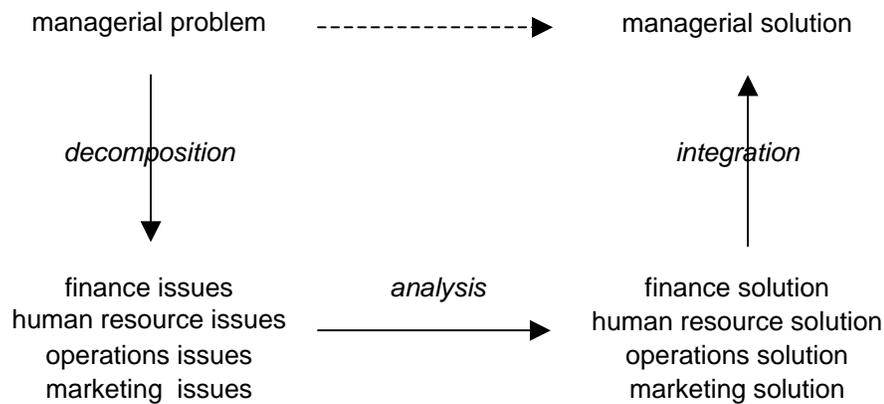*Manufacturing –*

Service –

Inputs – raw materials, partially-finished goods, energy, and, in the case of services, people – undergo a transformation, accomplished by the application of capital and labor, which changes their properties. Raw materials are transformed into more-useful goods, parts are assembled into finished products, people are healed or transported, and so on.

The job of "management" is to keep the institution running effectively. This is typically handled by breaking the managerial responsibilities down into various "functional areas." "Finance" provides and manages the capital. "Human resources" manages the labor. "Operations" manages the transformation process. "Marketing" provides the consumers. "Accounting" provides informational feedback on the performance of all these tasks.

Senior management oversees all of these functions, and makes strategic decisions. But the senior managers – "generalists" – don't make the day-to-day tactical decisions. Those decisions are made by "specialists" (i.e., middle managers). In essence, the broad task of "running the organization" is broken down – ***decomposed*** – into a number of focused subtasks. (Notice how neatly the departmental structure at Kellogg fits this paradigm: Finance, MORS (human resources), MEDS (operations), Marketing, Accounting, and M&S (strategy).)

The idea of "decomposition" provides a standard approach to complex problems. Rather than trying to solve a complex problem in its entirety through one gigantic intuitive leap,

we break the problem down into a group of simpler problems, solve each of *those*, and then pull the answers together.

managerial problem	- - - - - - - - - - - - - - -▶	managerial solution

decomposition *integration*

finance issues		finance solution
human resource issues	*analysis*	human resource solution
operations issues	──────────▶	operations solution
marketing issues		marketing solution

Most of the first year of a two-year MBA program focuses on the "analysis" link(s). Much of the second year is dedicated to case analyses, where the emphasis is on the "decomposition" and "integration" links.

Many types of analysis follow the same approach. For example, intermediate-term demand forecasting involves decomposing a time-series of past data into trend, seasonal, cyclical, and idiosyncratic components, forecasting each component forward, and then reassembling those forecasts into an overall forecast. Phil Kotler's "4 Ps of Marketing" paradigm suggests decomposing marketing problems into issues involving product, price, promotion, and placement.

In very much the same way, problems involving uncertainty – *probability* problems – are frequently best approached by breaking them down into simpler elements. The so-called "rules" of probability are actually just tools which provide us with various ways to perform this decomposition.