THE FUTURE OF ORGANIZATION DESIGN

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The type of organization design that I practice is strategic organization design. It has roots in Chandler's (1962) work which states, "Structure follows strategy." It applies to organizing at the enterprise, business unit, region, or functional levels. It is a top-down design methodology. The alternative is a bottom-up design approach such as the socio-technical systems approach. Bottom-up design methodologies build and design an organization around the technology being utilized and are most applicable at lower levels of the organization.

SHAPERS OF ORGANIZATION DESIGN

In my opinion, the future of strategic organization design will be shaped by three main phenomena. The first phenomenon, which Chandler (1962) described as a process of "concatenation," involves ever-increasing complexity and interdependence as firms add new strategic emphases and then incorporate them into their structure. About every 30 years or so, leading companies have added a new dimension to their strategies and structure. I think there will be another dimension – a dimension based on "Big Data" – that will be added to enterprise structures of the future.

A second shaper of organization designs of the future is the law of requisite variety (Ashby, 1956). This law, taken from cybernetics, states that as the number and variety of relevant entities in the stakeholder environment increases, the number and variety of units inside the enterprise must increase in order to manage these entities. The number and variety of stakeholders have been increasing as we have evolved from a mass production, mass market economy to one of mass customization and segmented markets. IBM, for example, used to have a single direct sales force calling on its various customers. Today there are eight go-to-market channels to reach customers and various departments to manage the relationships with channel partners and customers. Both concatenation and requisite variety have required the creation of more, and more sophisticated, integrating mechanisms.

The third shaper of future organization designs are the enabling technologies resulting from the Third Industrial Revolution (Markillie, 2012; Rifkin, 2011). This revolution is based on new technologies like three-dimensional printers that can fabricate a product anywhere in the world. Product designs can be stored in software in the cloud and downloaded to a printer at the point of demand. The products can be extruded, layer-by-layer, from 3D printers loaded with plastics, carbon fiber materials, or metals. These new digital devices can eliminate expensive supply chains, maximize customization, and minimize economies of scale. These devices cost only one to 20 million dollars, so a global firm's country and customer organizations can have their own manufacturing departments. This revolution will shift power and authority from global supply chain functions to the customer segments and countries.

ADDING STRATEGIC DIMENSIONS

At the beginning of the 20th century, most large business firms were vertically integrated and organized into functional structures. Chandler (1962) described how many of these firms diversified and organized into the multi-divisional structure. That structure was two-dimensional with business unit profit centers and functions reporting to the CEO. Around 1960, many U.S. corporations began to expand internationally, starting with European

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markets. This expansion was executed through a three-dimensional organization. Countries and regions were added to the structure, and they also reported to the CEO. Then, in the 1990s, companies such as IBM and Procter & Gamble started to focus heavily on customers, adding a fourth strategic dimension that needed to be incorporated into the organization. Reporting to the Office of the Chief Executive at P&G were global functions, global business units, regions, and global customer units. P&G called its organization the "Four Pillar" structure.

Procter & Gamble embedded these new dimensions throughout its existing structure, thus creating massive new complexity and interdependencies. The new dimensions are not just added onto, or bolted on, the existing structure but are woven into it via various matrix relationships. When P&G creates a global Wal-Mart team, that unit has roughly 250 people, and it reports to the regions as well as the CEO. In each region, the structure consists of business unit teams that also report to the global business units. Each regional business team is organized around functions, which also report to their functional units at the top of the global Wal-Mart team structure. The Four Pillar organization is actually a four-dimensional matrix. Clearly, coordinating these four dimensions is a major challenge for organization design.

The question naturally arises as to whether there will be a fifth dimension. My guess is yes, there will be a fifth dimension and it will be Big Data (McKinsey Global Institute, 2011). Companies are beginning to aggregate their currently independent databases. Today each customer team, business unit, country, and function has its own database. The trend is to collect and combine these databases centrally. Using analytical search engines and algorithms, companies can generate new and valuable insights from the various data. Customers, both new and old, are usually willing to pay for these insights. Given their importance, these databases and analytical units are being combined and now report to the CEO. Big Data could very well be the next strategic emphasis of the future enterprise organization.

REQUISITE VARIETY

The complexity that is created by moving from a mass market to a fragmented and segmented market can be seen in consumer goods companies. Most of these companies were organized in the U.S. by product categories and functions in a two-dimensional matrix structure. The product lines or categories owned the brands. But then companies began brand extensions across categories. At P&G, Olay was a hand lotion. It still is, but the brand has been extended into anti-aging products, bar soap, body wash, facial cleansers, facial moisturizers, facial hair removers, and ultra-violet protection products. Now P&G needs to coordinate brands across products and functions. Another complexity arises when the products and brands are modified to appeal to different segments. P&G has standard versions of products and brands, and additional versions for African Americans and Hispanics. So, consumer goods companies in the U.S. are organized by products and functions, as before, but also by brands and consumer segments. These are four-dimensional structures.

Coordination and complexity issues are present in all types of companies. The different types of media, customer segments, regulators, non-governmental organizations, technologies, and channels all require some kind of attention by the firm. This attention becomes the responsibility of units – often new units – inside the organization. Together, these units increase the number of entities and the interdependencies among them. The challenge is, how do we coordinate all of these units so as to achieve the firm's multiple strategies? Let's consider the coordination mechanisms that are being created to do so.

COORDINATION MECHANISMS

In my earlier work (Galbraith, 1974), I used the concept of information-processing capacity of an organization. As the number of different kinds of units in a company increases, and the interdependencies among them increase, the organization must process more information. Additional information-processing capacity can be achieved in two ways. One way is for a company to increase the capacity of its hierarchy to process more information, usually through some centralized mechanism. Alternatively, it can decentralize interdependence by employing lateral forms of coordination. Future organizations will use both types of

coordination mechanisms.

The hierarchy has been enhanced by "two-in-a-box" structures and by multi-dimensional planning and resource allocation schemes. Companies such as Monsanto, Intel, and some investment banks use two-in-a-box management structures. At Monsanto, business units are run by a general manager combination of a bio scientist and a sales/marketing person. The capacity at the top of the hierarchy has also been expanded. For example, when Jack Welch was the CEO of General Electric, he had two or three vice chairmen who joined in an Office of the CEO. The businesses reported to Welch, and the vice chairmen had expertise that Welch did not. This structure allowed three or four executives to focus on the whole enterprise rather than just one.

The resource allocation and priority setting system has also been enhanced. The best publicly available example is ABB under CEO Percy Barnevik (Barnevik, 1991; Strebel & Govinder, 2003). Barnevik put together a financial reporting system that could yield profit and loss reports for 5,000 business unit/country entities. Here the four-dimensional organization creates four ways to measure profits and losses. In such organizations, there is a continual debate about which measure is best.

The second way to process the coordination information necessary to manage interdependence is through an extensive lateral organization. Lateral mechanisms vary from simple informal relationships to formal teams and, finally, to complex matrix processes. All are being augmented with collaborative software and video conferencing. As much as possible, business processes are being automated. Customers of Cisco, for example, can design their own products and then hit a "buy" button. The order goes through Cisco's system to outside contractors, which assemble and ship the product. The product is delivered, the customer pays, and the electronic cash goes to Cisco's bank. All of the interdependence has been automated.

The human side of the organization is being redesigned as well. In many firms, emphasis is placed on developing shared values that guide decisions without communication between interdependent units and managers. Selection, development, and promotion processes are focused on creating collaborative managers. A culture of collaboration drives many of the processes to manage interdependence, and rotational assignments are used to develop managers who understand and identify with the total company. Rotations create the personal networks to get things done in these multi-dimensional organizations.

CONCLUSION

Strategic organization design's future will look a lot like its past. Companies add a new strategic dimension to their strategy and structure about every 30 years, thereby requiring the creation of new integrating mechanisms. Moreover, companies face a proliferation of internal organizational units as business evolves away from mass marketing and mass media toward more targeted (fragmented and segmented) responses to market, media, and stakeholder demands. The constant interplay of rising complexity and interdependence creates an ongoing demand for organization designs that can respond with new and more powerful coordination mechanisms.

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