STRATIFICATION: A KEY TOOL TO DRIVE BUSINESS FOCUS AND COMPLEXITY MANAGEMENT

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ABSTRACT

Business owners and companies make numerous complex decisions each day, however, the objective nature of the process and their outcomes are questionable. This leads to lost growth and profit opportunity for these owners. This unstructured process to investment and profitable growth has diminished business clarity and focus. Stratification is a key tool that can aid businesses in making investment decisions systematically for optimal growth. A stratification framework is provided to help business owners understand: key processes they should focus on, critical financial metrics to track, entities in the process groups that should be stratified for effectiveness. This framework will apply to any industry and is vital for long term business survival.

Key words: Stratification, profitable growth, complexity management, product stratification, customer stratification, demand stratification, stratification framework.

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1. INTRODUCTION
Complexity management is a critical success factor to any business or any process. Any company or business that is able to manage complexity well will likely to survive longer and stay on a path to profitable growth. Most firms start small. Over time, after gaining knowledge of the market place they expand: their product portfolio and suppliers, customers, market segments (electrical, electronics, agriculture, etc.), workforce, services (in addition to products), business processes, geographic footprint, etc. The major goal of this expansion is to grow the top line which is the revenue or sales currency and by doing so expect to increase their profits. During this expansion companies can add resources and invest at a rapid pace without paying attention to efficiencies. The companies hope that the additional profits that are generated will take care of all the business inefficiencies.

As customer needs increase and the need of additional services arise rapidly, companies are not able to successfully raise price at the same rate at which their expenses grow. In short, companies are trying to do more with less (decline in net profits after taking out all the expenses to serve the customer or end-user). Companies expand their customer base and try to cater to every customer in the market who has potential to buy their product and/or service. These customers often are in different market segments – some might be in the agriculture industry, some in food and beverage, few in electrical, and so forth. This is the first step to losing business focus. The companies are trying to accommodate every customer they can get their hands on. When they do this they start adding more inventories to existing products and introduce new products into their inventory. New products mean adding new suppliers and manufacturers in many cases. As firms add new products they also have to expand their sales force/personnel (new markets/industries require varying skillsets. A sales person capable of selling to agriculture customers may not do well with say hotels or hospitality industry. This diversification leads to adding sales resources), suppliers (new suppliers are added to the list because a customer in the agriculture segment would need a different set of products than a customer in the electrical segment) and introduce new processes that the additional products might lead to. Firms not only have to increase their head-count in the sales department but throughout the organization (manufacturing, processing, finance, accounting, inventory management and control, etc.).

Companies also face commoditization as they race toward growth. When this happens increasing price on products and/or services become challenging. The competition is always ready to provide the same product at a lower price and/or with additional services. This leads to a price war and the customer is not buying based on value. When price becomes a deciding factor business will cease to grow and exist. All this arose from trying to be everything to every customer. The crux of this problem is complexity. Companies have to identify the core part of their business that is the reason for their existence – the core customers, core products & services, core suppliers, etc. In order to identify the core business there is a need to stratify or segment their business (starting from manufacturers/suppliers to customers to sales people).

2. STRATIFICATION
It can be defined as the process of segmentation or identifying the critical few that account for most of the business activity. Vilfredo Pareto (1848-1923) was an Italian economist who, in 1906, observed that twenty percent of the people in Italy owned
eighty percent of their country's accumulated wealth. This has come to be called Pareto’s Principle, the 80-20 Rule, and the "Vital Few and Trivial Many Rule." Called by whatever name, this mix of 80%-20% reminds us that the relationship between input and output is not balanced [1]. The 80:20 / Pareto rule is a standard example of performing stratification or identifying the core group that generates most of the activity. Taking this approach down to business management we can translate this as:

- 20% of the processes creates 80% of the result
- 20% of the suppliers create 80% of the revenue/profits
- 20% of the markets create 80% of the value
- 20% of the people produce 80% of the desired outcome
- 20% of the customers create 80% of the revenue/profits
- 20% of the products/service drive 80% of the revenue

Stratification can also be defined as the process of layering or setting up a hierarchy for the purpose of managing, setting up business rules, focus and driving key activities. The context of using stratification in this paper is only for business management. The objective of this paper is not to identify the best way to stratify but provide a framework for the business entities (supplier, customer, etc.) that need to be stratified in order to drive business focus and effectiveness.

3. BUSINESS PROCESS FRAMEWORK
Companies perform various processes; and prior to proceeding to a stratification framework, one needs to layout a business framework is in order. Lawrence, et.al. [2] break a distributor’s (a supply chain entity that takes the product from the manufacturer to customers – primarily b2b – business-to-business) business processes into seven groups collectively known as the “7S” process groups:

- Source: This group addresses the processes related to the resource category vendors/suppliers and manufacturers. This group also refers to any manufacturing that is performed by the firm.
- Stock (inventory): The stock group addresses one of the largest assets of any business.
- Store (warehouse/facility): This group is comprised of facilities and material handling supporting assets.
- Sell: This group primarily focuses on customers and cash (accounts receivable – money that the customers owe the company after buying a products and/or services, another of the two largest assets). The processes in this group are marketing, pricing and sales.
- Ship: This group deals with processes that deliver products to customers; it involves facilities and transportation (to customers and returns from customers)
- Supply Chain Planning: This group addresses the network assets, which include facility, transportation, suppliers/manufacturers, customers, and inventory. This process is performed by companies once every 3-10 years as companies have to look at all assets in the company and reconfigure their entire distribution network – facilities, trucking requirements, transportation schedules, sourcing, etc. Since this is done once in 3-10 years it is very imperative that it is done right as it is not an easy task in terms of time, money and customer service to go through the supply chain planning exercise.)
- Support Services: Support and supply chain planning are critical groups that support all the functions in a firm. People, HR (human resources), finance, and so on are the
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resources that interact will all the other groups and are vital to the survival of any business.

- The seven process groups comprise of various processes. For instance, source group includes supplier selection, supplier performance management, supplier relationship strategy, etc. Stock group include inventory prioritization, forecasting and replenishment. The seven groups include a total of 47 business processes.

4. STRATIFICATION FRAMEWORK
Distribution companies make significant investments and when they do, it falls under one of the 7S process groups. At a high level, it implies that companies choose to first invest in a particular process. If the company buys new trucks or transport vehicles it would fall under SHIP. If it is a new building or facility it would fall under STORE. If they choose to invest in new products it’s the SOURCE group. In other words, stratification has to first be performed on the business processes before any of the other entities (supplier, customer, etc.) in the supply chain. The business stratification flow is depicted in Illustration 1.

Illustration 1: Business Stratification Flow

3.1. Process Stratification
All business processes do not add the same value. Certain process groups add more value than other process groups. From the illustration it can be seen that the key process groups are: source, stock, store, sell and support services. Any stratification that is performed within these groups (supplier, product, etc) will add significant value to the company. The reasoning can also be done at the financial level. Key financial metrics that companies track are cash conversion cycle (the time it takes to convert the product to cash after paying the suppliers). This metric determines the cash flow efficiency of the company. The other key metric is gross margin which is the difference between the ‘selling price’ and the ‘cost price’. The cash conversion cycle (CCC) can be written as: DSO (days sales outstanding) + DOI (days of inventory) – DPO (days payable outstanding).
DSO = 365 X Accounts Receivables / Annual Revenue
DOI = DOI = 365 X Inventory value / Annual Cost of Goods Sold
DPO = 365 X Accounts Payables / Annual Cost of Goods Sold

These financial metrics impact various process groups directly. DPO impacts source group (supplier). DOI impacts inventory which impacts product, demand and space. DSO impacts markets, and customer. Gross margin is impacted by customers and service primarily because the customer price ultimately determines the profit for that particular sales transaction with the customer. People impact all the processes and metrics. Referring to illustration 1 it can be seen that each entity impacting the critical finance drivers are the ones included in the stratification framework: process, supplier, product, demand, space, service, markets, customer, and people. This first step is process stratification. The outcome of process stratification is source, stock, store, sell, and support services.

3.2. Supplier Stratification
The process of stratifying suppliers based on profitability, services, performance, loyalty, and other metrics is called supplier stratification. Other factors such as risk, relationship, and growth potential can be used as well. The analysis is spread across all suppliers or it can be limited to the suppliers that account for 80% of annual spend. The objective of supplier stratification is to understand the criticality of the supply base and to allocate key resources accordingly. The stratification helps develop relationships and improve profitability in the long term. Supplier stratification helps the sourcing team see the impact of buying activity on the firm’s profitability [3].

3.3. Product Stratification
This process is also referred to as item stratification or inventory stratification. This is the process of ranking products based on relevant factors applicable to the business environment. The purpose is to classify products into a certain number of categories (typically less than five) so that managing them day-to-day does not become unwieldy [4]. This is especially true when handling several hundreds or thousands of items, where identifying and focusing on the most critical items is of utmost importance to allow resources to be used effectively and efficiently. This stratification process is typically done at a physical location level (at branches or distribution centers) across the entire company, although it could be applied at higher levels (regions or the entire company) as well. Inventory stratification must be done prior to addressing other inventory/purchasing related processes because it acts as a sledge hammer (making major adjustments to inventory status) and, thereby, places the company in a powerful position with a relatively quick return on investment. In addition, compared to other inventory management processes, stratification is the only analysis that results in a qualitative output and is relatively easy to understand by most users [2]. Products are typically ranked as A, B, C, and D.

3.4. Demand Stratification
This is a critical step to identifying the nature of demand and determining an appropriate forecast model for products. Most companies do not have a demand stratification process, and even if they do it is more of a reactive measure [2] [4]. The peaks and valleys of the demand values are adjusted before being forecasted. This is more of a manual process, with little or no automation involved. The process becomes all the more cumbersome while dealing with a large number of products/items for the
forecasting process. The process tells us that if the company makes an effort to forecast the demand of a product prior to their buying decision what is the level of accuracy that can be expected. Items that have a very unstable demand pattern should not be forecasted because the error due to forecast will tie up a lot of investment in inventory. The product stratification and the demand stratification should be used together of better results.

3.5. Space Stratification
The space in the facility/building where the product is stored plays a vital role in determining how soon a customer order can be filled. Not all spaces in the facility carry equal importance. The locations in the building that are easily accessible, closer to the entry/exit points, etc. should be housing the products that are more frequently accessed. The building has to be stratified into zones or areas for storage and space effectiveness. Some firms assign different zones in the building for various product families/groups [5] [6]. The reasons to adopt space stratification are to: maximize volume capacity, maximize weight capacity, easily stock and retrieve parts, prevent damage during handling, optimize pick rates of different products, determine material handling methods, determine storage media, and classify products by geometry and weight. Separate and unique procedures are developed for receiving, storage, retrieval packing, shipping, and material handling for each product family based on their characteristics to ensure a safe and efficient process in the facility [2].

3.6. Service Stratification
The process of stratifying services that are offered to customers is very important to deciding the pricing of services. Services are stratified based on popularity, profitability, cost and time involved, and product dependency. Value-added services are becoming table stakes and customers are demanding more while paying less. Customers offer try to negotiate service prices. If companies do not make an effort to understand the cost of the service they could be losing money every time they offer services to customers.

3.7. Market Stratification
One way is to view all customers as one big group. The other extreme is looking at individual customers. The mass market approach would be very efficient in terms of developing and delivering the marketing mix – products and services, price, marketing communication and service level (in terms of product availability, delivery and technical assistance). But the effectiveness is questionable since it ignores differences in customer expectations or needs assuming a single large identical group. On the other hand, one can treat each customer as a target and devise the marketing mix accordingly. Given the number of customers in a market, this would be infeasible for practical reasons unless the target market has limited number of customers and the firm operates in a very specific niche market. Such an effective method though comes at a very high cost (inefficient). Between these extremes, there are numerous positions and a firm can define its location depending on how it chooses to meet customer needs. Market stratification, therefore, allows for recognizing varying types, needs and other customer characteristics and to allocate expensive sales and marketing resources accordingly [7].
3.8. Customer Stratification

It is important for business owners to answer questions like; how much business a customer does (sales), how profitable they are in gross margins, how loyal they are, and how costly they are to serve (to protect net profits). Each of these dimensions has a bearing critical business decisions and investment. Customer stratification is the process of classifying customers into groups based on various factors, such as profitability, revenue, loyalty, and cost-to-serve. The stratification process helps companies determine which customers they could grow with and remain profitable. It examines the customer relationship in terms of the value customers provide their distributors. That value is achieved through increased revenue (which means the value to the customer must be addressed), decreased expenses (which means complex service offerings and how the customer accesses them are key factors), and optimal allocation of assets (which are driven by customer and supplier expectations). This is a complicated combination to be sure, but one issue is clear: All of these factors are determined by whom you choose to serve and how you communicate your value proposition to them [8].

3.9. People Stratification

This is the most critical and complex of all the stratification processes. It is also referred to as skill-will stratification. What the people are capable of doing (skill) and what they are likely to do (will) are used to stratify people for effectiveness in job/roles definition and assignment. The most common area that has been explored is the stratification of sales people. A key activity in sales management is sales force performance evaluation through stratification. Stratification of the sales force allows for optimal sales resource allocation to appropriate customer types. It also helps devise optimal compensation plans for the sales person that helps align the sales force with company / management objectives [9].

Best practice in sales force stratification involves a four step process. The steps are – qualitative analysis, quantitative analysis, reports & results (presenting results to sales management), and strategies & applications (develop strategies, incentive plans, and training needs). The stratification framework should be designed and executed based on the company’s growth goals and long term plans [7].

4. CONCLUSION

The stratification framework in the paper provides a guideline for a business organization to help with complexity management, and bring clarity and focus to their investment/decision making. The objective is to identify various components in the stratification framework but not to devise a methodology to stratify each of the entities. The methodology to stratify each of the entities will be the authors’ future research work. A possible business stratification framework for a company is shown in illustration 2. The stratification segments are not prescriptive but are just examples that a company could apply. The number of segments in each process could vary between 2-10 or as desired by the company. Care should be taken not to have too many segments as over time it becomes cumbersome to manage.
### Illustration 2: Business Stratification Framework

<table>
<thead>
<tr>
<th>PROCESS</th>
<th>CATEGORY</th>
<th>Supplier</th>
<th>Product</th>
<th>Demand</th>
<th>Space</th>
<th>Service</th>
<th>Market</th>
<th>Customer</th>
<th>People</th>
</tr>
</thead>
<tbody>
<tr>
<td>Possible Stratification</td>
<td>Key, Support,</td>
<td>Class A, Class B, Class C, Class D</td>
<td>Stable, Moderately Stable, Unstable</td>
<td>Zone A, Zone B, Zone C, Zone D</td>
<td>Advantage, Common, Niche</td>
<td>Attractive, Presence, Enter</td>
<td>Key, General, Infrequent, Difficult</td>
<td>Key, Transition, Functional</td>
<td></td>
</tr>
<tr>
<td>Segments (The segments under each process category are just examples and not prescriptive. Companies could have anywhere between 2-10 segments or as needed)</td>
<td>Niche, General</td>
<td>Class D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Factors (Not all possible factors are listed under each process, but only the most common and widely used factors. In other words, the primary factors)</td>
<td>Revenue, profit, product offerings, support, service, ease of doing business, cost to do business, supply chain performance.</td>
<td>Revenue, profit, return on inventory investment, number of customers at a product level, lead-time.</td>
<td>Quantity (usage), history available, peaks and valleys in demand, demand variability</td>
<td>Accessibility, frequency, area utilization</td>
<td>Revenue, cost to serve, profit, investment needed, number of competitors</td>
<td>Revenue potential, number of competitors, demographics, cost of offering, investment required</td>
<td>Revenue, profit, dependency/alignment, cost to do business, life of customer, life time value</td>
<td>Ability, willingness, performance metrics (operational and financial)</td>
<td></td>
</tr>
</tbody>
</table>

### REFERENCES
