

Inventory Planning In Small Business

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ABSTRACT

This article is about an inexpensive and easily adaptable inventory maintenance system developed specifically for small business using the commonly available Microsoft Office Excel program. This paper discusses a new system for inventory management that was developed in conjunction with a small business to determine the value, volume, and contribution margins of the product mix. Other entrepreneurs have subsequently used this system for decision-making concerning the allocation of scarce resources, inventory items stocked, determination of the profitability of individual businesses, and the future potential of the business. Inventory in small business is a concern for a number of reasons including: existing management systems are expensive; turnover is a major factor in profitability; and profitability is directly attributable to stocking a saleable product mix. Entrepreneurs must optimize their resources to engender profitability and stability by selling sufficient quantities of desirable products at acceptable prices.

INTRODUCTION

*S*mall business is big business in the United States. In 2005, over 25.5 million small businesses generated 97 percent of all exports (28.6 percent of known export value) and a net of 60 to 80 percent of new jobs annually over the last ten years (US Small Business Administration, 2006). Despite these impressive figures, only 44 percent of small businesses survive at least four years (US Small Business Administration, 2006) for many reasons, not the least of which is the constraint of money or lack of it. Although significant throughout the life of the business, the availability of money to purchase inventory is especially important in the initial stages due to start-up costs, including the initial costs of acquiring the start-up initial inventory and costs associated with introductory advertising and publicity.

These start-up costs are especially significant because income is lower from start-up through to the firm establishment of the business in the community and stocking costs are higher because merchandise orders have neither the frequency nor the quantity to qualify for the shipping or ordering discounts afforded the existing larger firms. However, in the marketplace, small business often competes with these larger firms, placing a restraint on potential prices and reducing profitability.

With reduced profitability, few small businesses (only 36 percent) are able to afford the advice or products from the professional business advisors (SCORE, 2006). This does not indicate small business is not aware of the benefits of advice as evidenced by the findings of the SCORE survey that found small business seeks advice from: individual mentors (52 percent); social networks (52 percent); trade associations (44 percent); the Internet (31 percent); and Chambers of Commerce (27 percent) (SCORE, 2006). The reliance of small business on free advice is indicative of the desire to succeed but the lack of financial abilities to ensure success. For these reasons, the author developed an inventory system while working with a new small business (J&B) in the region known as the Delta, in the State of Mississippi. This system has subsequently been individualized and implemented in another small business (Tisket Tasket Basket or TTB) in Western Canada.

J&B is a newly founded small business (operating less than one year). TTB has existed for approximately one year, but continues to struggle. Both businesses struggled with cash flow and a lack of formalized business systems resulting in the danger of closing. During investigation, the author discovered primary difficulties included poor turnover, a lack of knowledge of on-hand inventory that was not immediately obvious, price setting that depended on "gut feel," a lack of knowledge of individual product costs and profits, and high costs resulting from poor negotiating skills. J&B was particularly susceptible to the sales pitches of wholesalers, resulting in an eclectic

mix of products with unreasonable payment terms. The building housing TTB had limited storage space, resulting in the off-site storage of excess inventory. Inventory was not immediately physically observable or recorded resulting in rushed decisions to restock items stored off-site but not inventoried.

In working with these two companies, one of the tasks undertaken was the re-evaluation of the company's inventory and merchandise. To accomplish this, an inventory system was structured allowing the owners to narrow their inventory according to sales profitability and add new merchandise according to the needs of their clientele. This paper discusses this system, using these small businesses as examples to demonstrate how this system could improve inventory structuring within any small business.

BACKGROUND

Literature Review

Inventory is important to small business for many reasons, not the least of which is the requirement of the Internal Revenue Service that requires small business to match its inventory to the reported cost of goods sold in its tax returns. However, small business inventory is not the subject of substantial research within academic literature, with few exceptions wherein companies discuss their program in publications (Demery, 2006). In searching the EBSCO database, many of the articles examining inventory of small business were in the journal *NFIB Small Business Economic Trends*. The NFIB is the National Federation of Independent Business, an organization structured in 1943 as a non-profit, non-partisan advocacy organization that represents small and independent business (NFIB 2006). The majority of articles published by the NFIB deal with trends, statistics, and opinions that predict the future based on past results.

Other articles discussing inventory in small business discuss the tax implications (Wolosky, 2007; Christensen and Kenny, 2006), the importance of cash flow (Scott, 2007; Salkever, 2006), and the need for existing software to be adaptable to the individual needs of the small business (Bressler and Bressler, 2006), but rarely dealing with inventory management. In surveying small business optimism, Dunkleberg and Wade (2006) report a zero net gain in inventory with many reporting an inventory level that needs to grow.

This academic inattention is not found elsewhere. The Internet has multiple commercial sites to sell software programs for inventory control, including sites that specifically target small business. These software businesses, like their potential customers, charge for their services and products, highlighting the economic squeeze that small business experiences. Small businesses' ability to succeed may be compromised by the inability to afford specialized computer programs that fit their needs (Bhansali, Watson, Ernst, Cook et al, 2007). The economic squeeze results in increasing pessimism as found in a survey completed by the National Federation of Independent Businesses conducted in June 2006 wherein a number of small businesses expecting the coming months to be favorable for expansion dipping from 18 percent to 13 percent (Kirchhoff 2006).

The economic squeeze is not the only reason for the failure of small business. Reasons most frequently cited include lack of experience, insufficient capital, poor location, poor inventory management, over-investment in fixed assets, poor credit arrangements, personal use of business funds, unexpected growth (Ames 2005), competition, and low sales (Berle 2006). For many small business owners, economic well-being is further dependent upon the existing economy, not hard work, integrity, or responsibility. Recognizing J&B and TTB owners' lack of experience in a depressed economy, the authors developed a system that would simplify the task of keeping track of inventory using existing computer software.

J&B Small Business

The small business (J&B) involved in this case study sells a variety of goods ranging from all-terrain vehicles (ATV's) to women's purses. Opening in the late spring of 2006, J&B is a small business intending to sell ATV's and accessories exclusively. However, in order to survive in the difficult period between start up and achieving an established status, J&B is selling an eclectic range of goods that appeal to those in the immediate

vicinity leaving the inventory as an amalgam of the owners' long-term business plans and the immediate need for a cash flow. Long-term, the business anticipates operating as an ATV distribution warehouse, with one owner experienced in working with ATV's. Because the business is located within easy walking distance of a university, J&B currently sells a variety of goods in addition to ATV's, including women's purses, backpacks, toys, and other assorted goods.

The owners of J&B have limited experience in operating a small business and are working elsewhere to insure an income. Although this is not an indication of their commitment to the business, it is an indication of the available time they have to devote to the business.

The owners have investigated inventory systems, including QuickBooks, a simple and affordable (approximate price of \$2,500) solution for small business. However, this accounting system lends limited inventory support. Other available computer systems have more features accompanied by higher prices, starting from \$10,000 (Industrious Software Solutions and SAP). For a new small business that is marginally breaking even, this expense is too high. In searching the Internet for inventory control software for small business, there are at least 16 companies listing their products as appropriate for small and medium sized businesses. In reviewing their sites, many do not list a price and include options for supply chain management that are inappropriate for a small retail business.

TTB Small Business

TTB is the small entrepreneurial shop that compiles gift baskets for all occasions from an assortment of stocked goods. The owner/operator, AL is a creative individual with little business experience and a big heart. Although she has many standard baskets, she enjoys customizing baskets, creating a need for a diverse inventory with differing turn-over rates.

AL's business skills are challenged by the responsibilities of sole-ownership of a growing and potentially successful business. She currently keeps inventory and accounting records by hand in notebooks and accounting ledgers and two desk drawers, a fact her accountant has commented needs to change.

Assumptions

Before beginning to work with the companies, it is important to clarify as much information and data as possible to reduce the number of assumptions made. However, as with all studies, the work did not progress without assumptions formulated by the researcher, including: the accuracy and authenticity of the data received from the companies; the compliance with governmental rules, regulations, and restrictions concerning the operation of and accounting for the business including the product mix; the companies' fixed costs remain unchanged throughout the year; and sales volume differs between Peak Season and Off-Peak Season.

DEVELOPMENT OF INVENTORY MANAGEMENT TOOL

Recognizing the emerging evidence that the use of computers is positively correlated to the successful operations of entrepreneurships (Fairlie, 2006) and the proliferation of Microsoft on computers, the inventory management system was constructed utilizing the Excel program. The author developed a spreadsheet through which all inventory transactions were documented. The spreadsheet system initially requires about one hour to structure using the business's computer. This initial set up time allows the business to individualize the records to meet their needs and requirements. As the business grows, changes, and develops, the individualized system can be easily altered to stay concurrent without the monetary or time costs involved in contracting computer specialists.

The inventory is entered into a work sheet according to the following table:

Table 1: Gross Margin Contribution Spreadsheet

Column Heading	Description of Contents	Calculations
Product	Each product stocked either by ISBN or name as entered in accounting records	Enter information from invoices
Procurement Cost	The unit price (invoice price) for each product sold	Enter unit price (invoice price)
Procurement Volume	Number of units arriving in the store	Enter the number of units procured
Procurement Overhead	The amount of overhead (all operation costs including storage, stocking, ordering, etc.)	Enter total overhead costs as calculated using different accounting sheets
Procurement Value in Dollars	The amount of money represented by each product sold	Procurement Cost times the Product Quantity Sold
Selling Price	The price at which each product is sold (prior to sales or discounts)	Enter the total of Procurement Cost plus Procurement Overhead plus Margin per Unit
Margin per Unit	Amount the overhead added to the price	Enter the selling price minus the Procurement Costs for each unit
Sales Volume	Number of units sold	Enter number of units sold taken from daily/weekly sales
Percentage of Total	The percentage of each product category as compared to all categories	Individual Sales Volume divided by the total of the Sales Volume column resulting in percentage
Total Income	Income from sales of all goods	Taken from daily receipts
Costs of Purchase for the Quantity Sold	Invoice price plus the overhead times the quantity sold	(Procurement Cost add the Procurement Overhead) times Sales Volume
Gross Margin	Gross margin of each product	Costs of Purchase for Quantity Sold minus Procurement Cost for Quantity Sold
Percentage Contribution	The percentage of the price of each product category as compared to the total margin dollars	Gross Margin of each product divided by the total of the Gross Margin column

These calculations are augmented by the results of the second data sheet dealing specifically with the numbers of products sold in the following table:

Table 2: Value Contributions Spreadsheet

Column Heading	Description of Contents	Calculations
Product	Each product stocked in the store either by ISBN or name as it is entered in the accounting records	Enter from Invoice
Peak Season	The number of units sold during the Peak Season months	Enter the number of units sold for each product during the Peak Season months
Off Peak Season	The number of units sold during the Off Peak Season months	Enter the number of units sold for each product during the Off Peak Season months
Product Quantity Sold	Number of units sold for each product	Add Peak Season and Off Peak Season for the total number sold of each product
Peak Season Percentage	The percentage of each category of Peak Season products sold of the total products sold for each product	Individual Peak Season units divided by the total of the Peak Season column
Off Peak Season Percentage	The percentage of each category of Off Peak Season products sold of the total products sold for each product	Individual Off Peak Season units divided by the total of the Off Peak Season column
Unit Selling Price	Individual selling price of each product	Enter the individual selling price of each product as calculated in the Gross Contribution Table
Total Value	The dollar value of all the units sold	The total Sales Volume multiplied by the Unit Selling Price
Percentage of Total	Percentage of the individual total sold as compared to the gross total sold	Divide the individual Total Value by the Sum of the Total Value column

In structuring and calculating the Excel sheets, the researcher had the owners estimate the Peak Seasons and Off Peak Season. J&B determined their Peak Seasons to be October through December and January through April are the months classified as “Off Peak Season”. As J&B had not operated a full year, they did not have complete Sales Volume figures to determine accurately the seasonality for the months not yet in operation. However, the fact there was such a significant difference was surprising for them. The seasonality of the unsubscribed months will be evaluated when a full year of operation has passed.

TTB originally determined her Peak Season to be the six weeks before Christmas, with all other times as Off Peak Season. Upon examination of her sales using the Excel spreadsheet sorted by , AL determined her Peak Seasons to be measured in weeks rather than months and dispersed throughout the year: heaviest December 1 through 24 and the third week of April for Administrative Professional’s Day, and moderate during the peak baby birth months of July and particularly August and September (peaking on Tuesday of each week) and the two weeks covering the end of one month and the beginning of the next due to gifts purchased for new home owners. Using the system also allowed TTB to subdivide the Peak Seasons into the type of baskets sold during each peak period: new home, baby, special occasion greetings, and office. This subdivision enhanced the knowledge of the type of inventory required at different times.

These sheets also provide some surprising findings for both J&B and TTB as described following.

By documenting each transaction in Excel, both companies determined on a weekly basis their sales and inventory counts, facilitating management of ordering and stocking. Excel allows linking of individual cells on the sheets; required details need be entered only once. The table further facilitates the distribution of overhead costs for repayment. J&B’s Procurement Cost per Product has been calculated between 45 and 50 percent of the Procurement Price per unit. The high overhead results from J&B being in the initial stage of the business lifecycle, thus having low sales over the time-period of six months. TTB’s Procurement Costs per Product has been calculated between 35 and 40 percent of the Procurement Price per unit, lower than J&B but still comparatively high. This is important, as these costs must be recovered through sales, meaning higher prices for goods than potentially necessary. Higher prices result in lower sales.

These calculations assisted in the analysis of each product carried by determining the profitability of each according to value, volume, and gross contribution margin. These calculations are summarized in the following section. The findings from the analysis were useful in determining the goods carried and the needs of the business to grow.

ANALYSIS

J&B’s eclectic inventory of 70 products were classified into 11 categories, being: Oils, Wallets, Purses, Back Packs, Travel Bags, Sports Bags, Toys, Paint Guns, Toy Mopeds, Sport Vehicles, and Helmets. Individual products were first sorted according to the category, then the time of year the goods were sold, either Peak Season or Off Peak Season. In listing the sales according to the time of year sold, the seasonality of sales for particular products is determined, thus facilitating the ordering of products to minimize stock-outs. For example, J&B’s top ten selling products during Off Peak Season are very different from the top ten selling products during Peak Season. This finding in itself was surprising leading J&B to re-examine the focus of their business.

TTB’s merchandise was considerably more diverse but was similarly categorized into the following categories: Baskets, Fillers and Wrappings, Baby Goods, Food, Gardening Goods, House Wares, Outdoor Goods, Office Goods, Personal Grooming Goods, and Special Order. The category Special Order was designed to track the Sales Volume turnover of goods purchased for specific orders to determine if including these might be profitable. Each category was further subdivided according to the merchandise; for example, Fillers and Wrappings were subdivided into Cloth Ribbon, Metallic Ribbon, Cord, Plastic Closings, Cellophanes, Paper Fillers, and Organic Fillers. This subdivision was crucial for a thorough analysis of the very diverse inventory.

As with J&B, TTB sorted individual products first by category, then by the time of year the goods were sold, resulting in the ability to pre-order to ensure goods were available for those last minute orders. This assisted TTB in recognizing the seasonality of specific baskets as well as the “feast or famine” nature of the timing of their business. In understanding this seasonality, AL recognized the need to revise her staff scheduling to better accommodate “making up” the baskets to fill orders, as well as her marketing efforts to attempt to reduce the peaks and valleys of orders received. In a more detailed examination of goods in each category, it also became obvious some goods in each category had a higher turnover than others, necessitating decisions as to the allocation of storage space, the composition of the baskets, and the volume and timing of orders.

In knowing when the product sells, both companies are able to order the quantities necessary for the time period, thus reducing the need for storage or excessive shelf space. Also, by examining the sales records, both companies can monitor changes in product preference, particularly relevant to TTB’s category of Special Order. This must be accompanied by continual monitoring of the marketplace, the economy, styles, and innovations. This analysis and monitoring was not undertaken prior to the involvement of the author.

The calculations completed using the sheets did indicate significant findings. Over the time of J&B’s operation, the Total Income from the top ten products in both seasons (recognizing this is only six months) is only \$24,518. The sheets also quickly allow calculation of the Total Income from all products sold in both Peak Season and Off Peak Season as \$16,874. The method used to assign the procurement costs leaves \$11,456 apportioned over the stock that has not yet sold indicating the procurement costs, although paid out have not been collected due to poor turnover, leaving only \$5,417 in profit or less than \$1000 per month, an insufficient income. One possible reason for the low profit may be attributed to the newness of J&B or the eclectic nature of their product assortment. But this inventory management system allows for rapid examination and decision-making.

The flexibility of this system is portrayed in the first analysis of TTB. The calculations for analysis of TTB’s inventory are more complex than for J&B because TTB takes a number of inventoried goods and sells them under one price. Different goods are used for different baskets, with the only product used for every basket being the cellophane wrap. This company’s profitability was quickly calculated using the gross weekly amounts of each primary category because TTB’s Peak Seasons are determined weekly. TTB had established a system of payment to her suppliers based on a 90-day turn-around. It was calculated the total sales for the year was \$448,596, with a total profit of \$37,258 or slightly more than \$3,000 per month. However, this analysis led to the discovery of TTB’s off-site storage housing many products longer than 90 days, leading to the development of a stronger FIFO inventory system that accesses a more readily available site.

J&B’s spreadsheets assist in determining the profitability of each product in addition to value and volume contributions. For example, during the Off Peak Season, sales are approximately 25 percent of the total sales, indicating a need to expand sales by implementing or changing a number of operating procedures, not the least is their marketing communications. It also indicates a need to decrease expenses. This low percentage of sales is also noted in the volume contributions. In this calculation, it is noted that only five percent of the total number of products sold were in fact sold in the Off Peak Season, further confirming the need for J&B to re-examine their offered products. The best-selling item for the Peak Season times, according to value and volume, was a \$4.50 bottle of Oil, resulting in only 0.04% Gross Margin Contribution. This low percentage is skewed by the variation in prices of the products sold and a change to the Excel sheets wherein goods were separated by price such that individual products under each category were compared to the whole of the category. Each category was then analyzed as a whole to other categories, recognizing the vast differences in price and the volume turnover.

TTB’s spreadsheets also assist in determining the profitability of each product in addition to value and volume contributions. When originally structured, TTB anticipated the need for examining each product individually. For example, the volume contributions clearly indicated the highest contributors were the baskets and cellophane, a logical finding given the product is a basket wrapped in cellophane. But it is rarely the basket that sells the product; rather it is the products inside the basket. With that recognition, the value of the basket and cellophane is important because, although crucial to the product, it is not a determinant of the volume of products sold. TTB sells baskets that are compiled of standard items (85 percent of sales) as well as customized (15 percent

of sales). What became clear through the value and volume examination was the need to examine the value and volume of each type of basket in conjunction with the value and volume of individual goods. It also became clear that the volume of customized baskets must be monitored, as the gardening and outdoor goods baskets were originally customized and not considered standardized despite the inclusion of similar goods until this analysis was undertaken.

J&B's examination of inventory and sales records led them to the conclusion the diversity of their inventory had taken the focus of their business away from their desired main sale item, ATV's. Records indicated ATV's are not part of the top ten best selling items Peak Season and in fact, only six had been sold in six months of operation, an insufficient quantity. J&B's long-term plans of focusing on ATV's and Sport Vehicles could significantly increase their profit, as demonstrated by the contribution level of the five Sport Vehicles listed. Currently, the Sport Vehicles are enumerated in the top-ten listing for Off Peak Season.

This is also confirmed by the Gross Margin Contribution calculation that indicated a similar discrepancy with the vast differences in the prices of the goods. Thus, we looked at the products as best sellers according to price groupings and the seasonality, with price categories of \$0 to \$30, \$30.01 to \$70, and over \$100. The Total Value of the sales changed the perspective again. If all products with sales of less than ten are eliminated from the \$0-30 range, the Oils (\$1,219.50) exhibits dominance in Total Value, followed by a number of toys. However, for the mid-range of \$30.01 to \$70, the Car Scale 1:6 exhibits significant contribution with 181 units sold for a total of \$10,126.95. This analysis indicates these products should be included in J&B's optimal product mix whether by Total Value, Total Sold, or Gross Margin Contribution.

Off Peak Season sales indicate the Travel Bag and Fanny Bags sold the most by amount sold, 12 and 9 respectively. However, the largest amount of money came from the sale of two Kazuma 4-Wheelers and one each of several other types of bikes equaling 73.5 percent of the Off Peak Season sales by Total Value. This creates a problem in what should or should not be sold due to the difference in the sale-price. The author has examined this finding and determined that, although these sales figures cover only six months, J&B must carefully consider the direction of its business in light of the low profits during this time.

TTB's examination of inventory and sales records similarly highlighted a number of factors. The imagination of AL factors significantly in the development of sales of previously un contemplated baskets. The adaptability of TTB was evidenced in the sales records wherein customized orders originally developed specifically for particular customers, had become over 60 percent of her business with re-orders. This indicates TTB's owner, AL's, adaptability and flexibility is a necessary component in solicitation of future business and in evening the peaks and valleys of her business and lessening the difference of Peak and Off Peak Season income.

TTB's Gross Margin Contribution was calculated both by the individual types of baskets as well as by the individual goods. When the costs of one-off purchase, store display, and storage were added to the sum of Procurement Costs and Procurement Overhead and compared to the Total Income from the individual baskets (a column added due to the type of business), it quickly became obvious the goods for customized goods was a problem because the Total Sold and Total Value was small. That is, the cost of the individual customized products ranged from seven to 38 percent less than the revenue from sale if the revenue was equally divided among all components of the basket. Because of the success of customization, this necessitated a decision by TTB as to how to successfully offer customization while reducing the costs.

Surprisingly, the sale of customized baskets was largest during the Off Peak Seasons (weeks). In brainstorming the causality, the sales receipts were pulled and it was discovered the peaks were created by large orders from corporations, while the majority of Off Peak Season sales were by individuals, often coming into the store. It was decided to complete market research with individual consumers to determine how they learned of TTB, why they were purchasing baskets at that time, what they thought of the store/service, and suggestions for improvement. Through this research, TTB may discover ways to increase sales during Off Peak Seasons. However, in the meantime, decisions needed to be made concerning the inventory sitting in stock for more than 90 days.

For J&B, it was easy to note over the six months recorded, certain products did not sell. Although this was previously a perception, using the spreadsheet provided immediate proof, simplifying the inventory management process. J&B's total sales of all products are \$25,545, indicating the top 20 products account for 96 percent of the total income, immediately indicating the most profitable products and suggesting the elimination of most of the remaining 51 products, including all of the 28 products that have not sold at all in the six-month study period. These calculations give J&B the opportunity to make decisions concerning deleting products from their inventory or increasing marketing communications concerning the product. It also indicates the lowest sale price of each product in order to clear the product from the store by assigning a mark-up value.

It must be noted that for these tables and calculations with both companies, the overhead of the store was spread across all categories using an equal percentage across all products. This is insufficient as different products produce different overhead. Using a similar spreadsheet, the overhead can be more closely aligned with individual products, allowing further analysis of the profitability of individual products.

CONCLUSION

J&B is a new business in the Delta region of Mississippi and TTB is a small entrepreneurship in Western Canada. The two businesses are diverse in their products and development stages. J&B's owners work elsewhere until the business establishes and becomes successful. TTB's owner is self-employed full time in the operation of the store. As indicated, J&B carries an eclectic product mix, resulting in many products sitting on the shelves or in stock for significant time periods. TTB's product mix is less eclectic in that all goods can be put into a gift basket, but eclectic in ranging from gardening seed to specialty teas and coffees to bibs and booties for babies. In working with these enterprises, the author has looked to rationalize the resource utilization and efforts to optimize the returns. In doing so, the author developed a spreadsheet by which inventory records are kept and quickly translated into decision-making tools.

The inventory records have been developed using the Microsoft program, Excel, allowing for minimum costs for optimum operation decisions. Unlike many commercially available programs, this Excel system is easily customized system and provides substantive and individualizable information. Further, Excel is a common program and does not necessitate specialized training to operate, allowing any store employee to input data. Inventory can be documented a number of different ways, but the Excel format allows for easy copying into other worksheets, enhancing the capabilities of the system to work specifically for the unique needs of small business. The amount of inventory ordered and sold is important and this system facilitates the streamlining of this process. The inventory records can be used to determine which products should be returned or significantly discounted to remove them from inventory, thereby decreasing costs.

In determining this for J&B, the product mix analysis indicates 20 products compose 95 percent of the profits. By using this analysis, J&B has the information necessary to eliminate many of the non-profitable products. In examining the inventory records, TTB's product mix must be reduced, as well as the volume of products in specific categories at specific times of the year. This is exemplified in the volume of products used in the gardening basket that were purchased in the summer of 2006 and only now beginning to be sold. Through clearing the stagnant inventory and restraining orders to products that are saleable within the next month, both companies will be able to better utilize scarce resources in ordering and stocking. Other decisions stemming from this system include operating and marketing decisions. By continuing with this system, these entrepreneurs can optimize their product mix through the addition and deletion of products as a continuous activity based on the results of regular and frequent examination of the spreadsheets.

It quickly became obvious, for both companies, that the time-periods must be more finely discriminated, using months or weeks for a more accurate reflection of sales to facilitate the products sold. Both companies' products are significant by the time of sale being Peak Season or Off Peak Season. However, it is important to carefully consider the criteria for selection of products. As shown, using different criteria results in adopting different products; potentially creating difficulties that may cost significant resources. J&B must clearly define goals to optimize scarce resources.

Although not a direct result of the spreadsheet analysis, it is evident both companies must adopt an inventory system that best suits company sales. The just-in-time inventory strategy would be ideal to reduce storage costs. However, both companies are small businesses, one with low over-all turnover and the other with primarily low cost items, making it a poor candidate for the expense of frequently shipments. Thus, both will need to consider which strategy to adopt. Because of the low turnover, FIFO (first-in, first-out) would be optimal. This would imply the necessity of adding one additional column in the spreadsheet to record the date of purchase, thus highlighting the information necessary to ensure the appropriate turnover of the inventory.

The small size of both companies also negatively impacts their effectiveness in negotiation with suppliers. They must seek out those suppliers who are willing to offer optimal discounts, terms, and conditions. This surveying of the supplier environment must be continual to ensure optimal use of scarce resources, a reality for many small businesses.

Small business is the lifeblood of many people and nations around the world. When starting a small business, the costs of many inventory-tracking systems are beyond the bank balance of the business. However, without adequate inventory tracking, small business is more likely to fail; a great loss to the economy as a whole as well as the community and individuals in particular. Small business can use the Excel inventory-tracking systems without additional expense beyond a computer. The Excel inventory-tracking system can grow with the business. Eventually, when the business has grown beyond the “small business” category, Excel is easily converted into most current inventory systems, reducing the need for extra inputting.

RECOMMENDATIONS

J&B’s analysis has determined a significant seasonality associated with the products. With this seasonality, J&B will need to work to overcome the income fluctuations. Recommendations that flow from the analysis using this program include:

- The spreadsheet indicates a low profit. This fact necessitates a more holistic examination of the long-range planning, including the convenience and frontage of the store’s location. The store will not survive if the location remains unknown or inconvenient for the consumer. Another step J&B may consider is the inclusion of a wholesale program to add to tentatively improve the volume of sales.
- The spreadsheet indicates a low sales volume of ATV’s. Logically this would signify the need to change products. However, J&B is interested in exclusively promoting and selling all things related to All-Terrain-Vehicles. With this interest, it is suggested J&B revise their inventory and engage in custom work on these vehicles to promote their store as well as initiate a new line of products and/or accessories that complement existing products and in turn contribute to profits, giving the enterprise a more defined focus. In this light, J&B must develop advertising and promotion of its store and its products. To do so, they must select and market to a specific target area and population.
- The analysis of the spreadsheet was enhanced by the addition of a column indicating sales by the month. Over time, the optimal schedule for advertising will become evident and the breakdown will also assist with comparison of sales in similar time periods from year to year.
- The limitation on the number of products that are viable for this company is indicative of their importance. The sales performance and costs of these products must be carefully monitored because a failure to monitor would negatively effect the overall viability of the company.

TTB’s analysis also determined a significant seasonality associated with the products, but in a much shorter time frame (weeks). Although not as significant as J&B, this seasonality necessitates TTB working to overcome the income fluctuations. Recommendations that flow from the analysis using this program include:

- Lowering or maintaining the costs of goods purchased for inclusion into baskets is vital to keep TTB’s prices competitive. To ensure the costs remain viable, AL must negotiate friendlier terms with suppliers. The cost of those products that are purchased as one-off or as tentative must be considered carefully,

ensuring those products are purchased in sufficiently small quantities they are immediately used to decrease storage times.

- Storage facilities must be relocated to be closer to the store's location to be more amenable to quick transfer of stored stock to the store thus decreasing storage times and out-dated inventory.
- Analyzing the Excel program clearly indicated "peaks and valleys" of income and sales. To attempt to even these, TTB analyzed who and what is purchased during those times. This analysis helped in establishing a program of promotion to target standardizing these baskets that contain unique goods to better cater to the reasons for purchase in Off Peak Seasons. This will require some market research in the form of simple surveys.
- Promotion of TTB in the business community is essential as analysis of the Excel program clearly indicates the majority of their business comes from corporations. AL should promote her creativity in designing baskets to meet the unique needs of individual corporations. To ensure these baskets are not one-off, TTB should attempt to negotiate a minimum number of baskets per month. This will also assist in ordering of inventory.
- Surveying the sales times, TTB must rearrange her staffing schedule to optimize the creation of the baskets according to their sales times.

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