

# **Textbook Order Fulfilment Strategies and Implementation of Epsilon Publishing, 2013**

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## **Abstract**

This report describes Epsilon Publishing's textbook order fulfilment strategies and implementation for the back-to-school period of 2013; paying particular attention to processing, producing and fulfilling its primary school purchase orders from its textbook inventory done locally and under-one-roof. A sample bookstore implementation is used to show how Epsilon processed, produced and fulfilled the textbook orders for that bookstore. The report also uses the same bookstore to assess how Epsilon performed in producing and fulfilling its textbook order during back-to-school 2013. From this sample, it is suggested that Jamaican educational publishers could see profitability from their inventory sales should they become interested and choose to apply the local and under-one-roof strategies described in this project report in processing, printing and fulfilling their textbook orders.

**Keywords:** textbook, inventory, profit, fulfilment, production, print, Jamaica, bookstore

**Subject Terms:** inventory sales, purchase orders, textbook order fulfilment, educational publishing, back-to-school, self-publish, self-print, primary school, profit margin, inventory turnover

**Key Spelling:** British spelling for: fulfil, fulfils, fulfilment, fulfilled, fulfilling

## **Dedication**

*To God, my strength*

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## INTRODUCTION

### **Motivational Framework**

Prior to July 2013, I made preliminary talks and then agreed to work at Epsilon Publishing as a Public Relations (PR) consultant and, in the process, garner enough information to complete my project report for submission in partial fulfilment of the requirements for a Master of Publishing degree. I therefore set out on the morning of July 11, 2013, to change the ‘Epsilon Publishing world’ with my brilliant PR plans and ideas.

When I entered Epsilon’s building, I almost made a quick retreat thinking I was at the wrong place. The office I now saw was totally different from the one with which I negotiated. I had seen an immaculate office environment of neatly stacked chairs, books, showpieces, office equipment, quiet printing machines, etc. Now, very early in the morning, before the other employees had arrived, I saw paper strewn everywhere, machines going a mile per minute and my employer, Mr. Courtney Harrison who appeared quite busy. He quickly greeted me and I could see that he was already thinking of the many tasks to be done for the day. He indicated that he was at work all weekend in order to meet purchase order deadlines that were to go out that very day. I immediately offered and went to work to help him bring the office to a semblance of preparation for the workday and until the remainder of the staff came. It was non-stop work throughout the day — face to face and telephone service to clients, sorting, assembling, printing delivery to bindery, packing, receiving, and the list continued. By the end of the day, I realized that I had to put a rain check on my PR plans.

What does one do when she finds out that her employer is in the midst of his biggest selling period; has outstanding deadlines and needs as many experienced publishing hands on board as he can get? Throw in her lot with the publisher and help as the needs arose. I thus made the decision to multi-task and serve. Out of this decision, I was able to resolve a long-standing issue. I had been grappling with the concern of what topic to write for my project report. As I went through my daily chores to assist with the various activities of the company, it was easy to see and settle on a topic surrounding textbook order fulfilment operation. That is, the process, production and fulfilment of business operations for the company’s textbook orders.

## Organizational Framework

In this report, I hope to describe the local and under-one-roof strategies of an educational publisher in its textbook order fulfilment operation from point of sale to delivery during its inventory sale of primary school textbooks for the back-to-school period of 2013. In so doing, I intend to demonstrate that, publishers can profit from inventory sales should they successfully implement the strategies described in this report. It therefore begins with background information on the Jamaican publishing industry. Particularly, where textbooks and educational publishing, self-publishing, processing, printing and fulfilment of textbook order inventory are concerned. The report then leads into Epsilon's back-to-school 2013 order fulfilment operational needs and why the company employed under-one-roof and local strategies to best meet the needs of its customers.

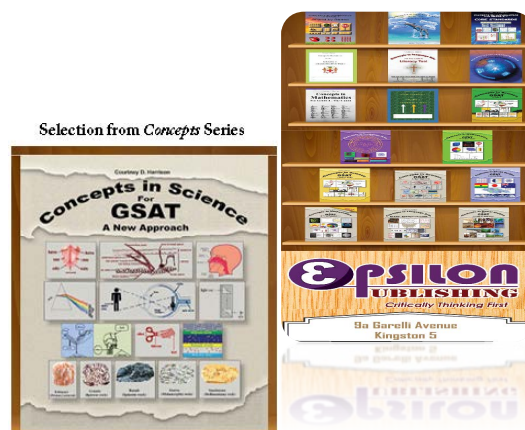
Part II of this report describes Epsilon's local and under-one-roof strategies for its back-to-school period. Local strategy includes **land, labour** and **capital** resources. Under-one-roof strategy includes order process, production and fulfilment all happening within the same building. Using one of Epsilon's independent bookstore customer called 'Turning Pages', Part III gives a sample implementation case of the type of textbook order fulfilment operation that Epsilon did for the back-to-school period of 2013. An assessment of the implementation's success is also done. Finally, a conclusion is drawn that Epsilon successfully implemented its local and under-one-roof strategies. This is because, as could be seen from Turning Pages' implementation, the company profited from inventory sales revenue over the period.

## Epsilon Publishing

Epsilon Publishing is a six-year-old company at the time of writing. It is family owned, independent and a self-publishing company that, to a large extent, prints and or publishes its own titles, audios and artwork in Jamaica. Courtney D. Harrison, a teacher of many years, is the author and creator of Epsilon’s publications. There are shareholders and directors at Epsilon but Mr. Harrison is the founding member of the company. In its first two years (2008 and 2009), the company mainly specialized in selling its own educational audio tapes and concentrated on writing, editing and producing excellent textbooks for the primary school market in Jamaica. By combing through the Ministry of Education’s primary school education curriculum, past paper examinations and doing a thorough content analysis of all competitors’ titles, Epsilon produced books with learning content geared towards students’ examination passes.

By 2010, the company finished its Mathematics, English, Social Studies and Science titles and created its first series, *Concepts*, for all subjects that students sit in the Grade Six Achievement Tests (GSAT) — the Jamaican qualification examination for high school students. By 2011, having done island wide marketing and promotional activities mainly through sales agents and Word of Mouth strategies, *Concepts* did so well that it became branded as a ‘must have companion set to pass the GSAT exams’. Having received recognition and market share in the school publishing market, Epsilon expanded its titles and series. By 2013, Epsilon had successfully published over 40 titles and added another successful series called *Easy Pass*.

**Figure 1: Selected Titles from Epsilon’s Publications**



The company's achievements in six years are unique in the educational publishing landscape in Jamaica. The company self-operated the full publishing arm of its business from writing the manuscripts to editing, printing, producing, marketing, distributing and fulfilling the completed texts. However, only the production and fulfilment operations and their associated processing in terms of the production and fulfilment activities of such achievements will be reported on in this report.

Epsilon employs external (do not work in its office) and internal (work in office) staff. The bulk of its printing is done internally in black and white. It outsources all coloured work, covers and binding jobs. Design work is also outsourced. The company has editorial staff, administrative, printing, sales and delivery staff. In 2013, Epsilon is a growing company and although it publishes primarily in Jamaica; it has expansion plans, first, for the Caribbean region and later, internationally.

## PART I: BACKGROUND I & II

This chapter lays a foundation for the key issues of the textbook order fulfilment operation being described in this project report. The section, Background I, gives an overview of the publishing environment in which Epsilon operated and was important in helping to guide the decisions of the company in its aims and strategies. Knowledge of both general and Jamaican educational publishing practices, differences between traditional and self-publishing as well as textbook order printing, processing and fulfilment operations are imparted in Background I. These are important in understanding the happenings, needs, decisions, implementation and success of Epsilon's back-to-school 2013 textbook order fulfilment operation. Background II gives a description of the circumstances surrounding Epsilon's textbook order fulfilment operation for back-to-school 2013, the needs to be met and why and how it aimed and strategized to satisfy the textbook inventory order fulfilment operational needs of the period.

## 1.1 Background I: Educational Publishing and Its Textbook Order Process, Printing and Fulfilment Operations in Jamaica

### Educational Publishing and Its Industry

Educational Publishing can be described as the dissemination of learning materials through various formats for the school room. The main format of dissemination is through educational books in singular books per course or subjects called textbooks, in print, for educators and students in the classroom. With improvements in technology, educational publishers, who are the business owners and producers of learning materials for education, have moved away from the offerings of singular books per course to complete course package provisions for teachers and students. Course packages include both print and electronic publications with all inclusive package per subject as follows<sup>1</sup>:

- student course books (main text)
- student workbooks
- teacher's manual
- test bank – question and answers (also called practice tests)
- lab manual
- multimedia presentations, audiotapes/CDs. videotapes or DVDs
- companion websites – online learning materials
- posters, picture cards, kits and other learning aids.

In the main, the above course package list of print and online publications are provided in its entirety for the educational publishing market mainly by multinationals (companies operating in several countries).<sup>2</sup> In Jamaica, multinational educational publishers are not physically present as they once were but they still utilize various distributors throughout the Caribbean and Jamaica. For instance, Carlong Publishers, one of the main local educational publishers in Jamaica, distributes for the Longman, Ladybird and Penguin imprints (trade name under which

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<sup>1</sup> Binbin Yang, Grace. *Title Development Strategies and Processes of School Publishing at Pearson education Canada*. British Columbia: Simon Fraser University, 2007, pp. 5-6.

<sup>2</sup> <http://www.oxforddictionaries.com/fr/definition/anglais/multinational> (accessed June 24, 2015)

work is published) of the Pearson Education group.<sup>3</sup> Pearson also distributes in Jamaica through Pearson Caribbean. Another prominent multinational that distributes in Jamaica through Book Merchant Ltd., is Scholastic. Macmillan Publishers also distributes in Jamaica through Kingston Bookshop. Purchasers of these course packages are subject to the distributor's arrangement with the multinational and what the distributor chooses to import.<sup>4</sup> Therefore, purchasers buying from a distributor may or may not be able to get the complete items on the list above. In fact, selling of complete course packages, as listed above, for the various subjects are not the norm for the Jamaican educational publishing industry. Multinationals have downsized in presence and influence in the Jamaican publishing industry. Industry initiatives now comes from "institutions, individuals, bookshops or printers, [self-publishers, distributors and traditional publishers]"<sup>5</sup> who may or may not own the titles. Each work that is published or about to be published, in textbook format, is called a title.

Educational publishing in Jamaica provides for and supplies titles for the above learning materials in its education system in distinct levels of the Jamaican school system. The Jamaican system of education has four school levels. Early childhood (kindergarten to grade 1); primary school (grades 1-6), secondary school (grades 7-11 or 12-13 for high school years) and tertiary (after high school).<sup>6</sup> Publishers target single levels or combined levels for school teachers and students in Jamaica. For its title production, Epsilon Publishing targets all levels but focuses on the primary school level. This is because Epsilon's books are geared towards student passes and in Jamaica, at the primary school level, one of the biggest educational examinations is GSAT. Also, as it pertains to title, the biggest title and learning material selling period in Jamaica is the summer period of July to September. During this period, parents, teachers and guardians shop for

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<sup>3</sup> <http://www.carlongpublishers.com/aboutus.php> (accessed June 24, 2015).

<sup>4</sup> Robinson-Walcott, Pamela. *Regional Consultation on National Book Policies Report*. Sponsored by the National Book Development Council of Jamaica; The Jamaica National Commission for UNESCO and The Jamaica Library Service. Kingston, Jamaica: June 20-July 2, 1999, pp. 7.

<sup>5</sup> Alleyne, Alvona and Mordecai Pam. "Educational Publishing and Book Production in the English Speaking Caribbean". *Publishing in the Third World* 26, no. 4 (Spring 1978): 575. Available at [https://www.ideals.illinois.edu/bitstream/handle/2142/6995/librarytrendsv26i4l\\_opt.pdf?sequence=1](https://www.ideals.illinois.edu/bitstream/handle/2142/6995/librarytrendsv26i4l_opt.pdf?sequence=1) (accessed June 24, 2015).

<sup>6</sup> <http://www.moe.gov.jm/node/16> (accessed June 24, 2015).

the upcoming school term. As a result, the name ‘back-to-school’ is used in Jamaica to describe this period in the educational publishing industry.

From the listed course package above, course text, workbooks and teachers manuals are the main items sold in single titles in Jamaica. As a result, at the primary school level, educational publishers sell or produce mainly print texts and only make available the online component according to customers’ demand. For the purposes of this project report, primary school textbooks are the main focus. Epsilon publishes primary school textbooks in the main in print because at Epsilon, print textbooks sell more than the online component.

### Jamaican Educational Book Publishing Industry

Educational publishing is important to the book publishing industry in Jamaica. Jamaica’s book publishing industry, including press and literature, is a J\$3.1 billion industry (US\$30,392,157)\*<sup>7</sup>. Of this amount, textbooks alone account for 80% of book sales and industry earnings.<sup>8</sup> The ministry of education is the dominant buyer in the educational field that purchases and bids for primary and secondary school educational material to the tune of J\$1 billion.<sup>9</sup> Therefore, it goes without saying that publishers in the book industry in Jamaica are mainly players in the educational publishing field. Usually, the more dominant educational publishers publish for either the primary or secondary school market. This is because, if publishers can get the required bidding contract, there is already an established market from the ministry of education for their books.

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<sup>7</sup> \* Converted at average exchange rate of USD\$102 to 1 Jamaican dollar for the July to September 2013 period. Available at [http://www.boj.org.jm/foreign\\_exchange/fx\\_rates\\_monthly.php](http://www.boj.org.jm/foreign_exchange/fx_rates_monthly.php) (accessed June 24, 2015).

<sup>8</sup> Magnus, Kellie. “*Becoming an Author: The Book Climate in Jamaica & the Diaspora*.” September 19, 2011, pp. 13. <https://becominganauthor.files.wordpress.com/2011/09/becoming-an-author.pdf> (accessed June 15, 2015).

<sup>9</sup> “Education Ministry to Invite Bids from Local Publishers”. Ministry of Education Press Release. June 19, 2013. Available at <http://moe.gov.jm/press-releases/education-ministry-to-collaborate-with-jma> (accessed June 15, 2015).



Educational publishers do not necessarily have to get a contract from the ministry of education to make great sales on their educational products. They have a ready market from the buying public. In their book purchases, Jamaicans are mainly educational book buyers. Therefore, educational publishers who do not get publishing contracts from the ministry of education, are still able to publish educational material and make a profit. Profitability, of course, depends on how well the publishers operate their businesses and their familiarity with the educational publishing dynamics of the Jamaican market. One key dynamics is pushing for sales revenue during back-to-school, the best sales period of the year. Therefore, if he or she desires to do book publishing, an investor is best advised to tap into the educational book publishing industry in Jamaica. There is a ready market, commanding 80% market share among the other forms of book publishing in Jamaica. The other 20% are splits of trade, reference, scholarly and children.<sup>10</sup>

#### Traditional vs. Self-Publishing in Jamaica

Traditional educational publishers are those publishers that create profits from their businesses by publishing textbook titles and other learning materials. In traditional publishing, these titles are done by single subjects at a time. For instance, if a publisher is publishing for Science, a textbook title *Concepts in Science for GSAT Grade 4* is published. All plans for the development, production and sales of this single title are done prior to moving on to a new one. For publishers with big budgets, more than one title can be produced at any one time.

Titles are developed in three stages. A pre-production stage where research and analysis are done for development of title or titles. Also done at this stage are research on the most profitable title for development and author contracted to write according to ministry of education curricula guidelines. The second stage in book development consists of writing, reviewing, editing, design and production. The last stage is postproduction where marketing, promotion and sales are done.

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<sup>10</sup> Magnus, Kellie. "Becoming an Author: The Book Climate in Jamaica & the Diaspora. September 19, 2011, pp. 13. <https://becominganauthor.files.wordpress.com/2011/09/becoming-an-author.pdf> (accessed June 15, 2015).

Educational publishers in Jamaica operate in the main, traditionally. Specifically for the primary school market, there are several educational publishers who publish by traditional methods; chief of which is local publisher Carlong Publisher. Other publishers who supply the educational market for primary school children are: Jamaica Publishing House and DataZone (a Trinidad & Tobago company).<sup>11</sup> LMH Publisher also publishes traditionally for primary schools in Jamaica.

Self-publishers are those publishers that control entire profits from their businesses by publishing their own titles and learning materials. In educational publishing in Jamaica, self-publishers are relatively new. They have been operating in less than 10 years while traditional publishers would have been in operation for over 10 years. Epsilon Publishing and Independent Integrated Publishers (formerly Mid-Island Educators) are the dominant educational self-publishers in Jamaica.

#### Textbook Order Processing, Printing, and Fulfilment in Jamaica

The supply chain route for educational publishing industry in Jamaica is highly dependent on textbook orders. The supply chain route is the journey and or processes between the time a textbook order is made, called purchase, until it is supplied or reaches the customer. Textbook orders comprise three stages: **order processing, order printing and order fulfilment**. For the purposes of this report, **order processing** are those internal business processes that take place when an order is received until the textbook is delivered to the customer. If the publisher does not have the title in stock it includes printing, as an intermediate step.

An educational publisher can receive textbook orders for processing in any number of ways including telephone enquiries, sales representatives of the company, emails, websites, repeat and loyal customers, schools, the ministry of education and retail outlets. Retail outlets are bookstores, supermarkets, pharmacies, libraries, distributors, etc. For traditional publishers, a sales department usually handles all textbook orders. For self-publishers with small staff, an

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<sup>11</sup> Ministry of Education. "Approved Textbook List for Primary 2013-2014" Available at <http://www.moe.gov.jm/sites/default/files/Approved%20Textbook%20List%20for%20Primary%20-%202014-2015.pdf> (accessed June 24, 2015).

office staff coupled with a sales representative usually handle textbook orders. Internal systems, some electronically and others manually, are put in place to document and process orders. The bigger publishers use Electronic Data Interchange (EDI). This enables the electronic interchange of orders and accounting information from the purchaser's computer system to the publisher's and vice versa.<sup>12</sup> Smaller publishers, like Epsilon, do not have or use EDI. As a result — even though they may use accounting software such as Peachtree or QuickBooks to monitor internal purchase orders, inventory and accounts — have much paperwork to process an order. Whatever the electronic or documentary system of choice for the publisher, when an order is finally processed, the system must be able to quickly tell what titles are on hand. This enables quick communication to purchasers who are enquiring about titles for sale.

For the purposes of this report, **order printing** is comprised of those in-house business processes that are put in motion when an order is received for printing until it is sent for order fulfilment to the customer. Order printing is the most expensive of all the textbook order functions and stages. Printing involves paper, printing and binding (PPB), the most expensive of the production cost, with PPB alone averaging 50% of the total cost to produce a title.<sup>13</sup> Publishers plan their print-runs (the number of copies of titles to be printed) for specific periods during their title profit and loss planning — done in the editorial stage of planning for a given title.

Two selling periods become particularly important in the Jamaican educational publishing market. They are the back-to-school period of July to September that usually commands up to 70% of sales for the year; and, to a lesser extent, January, which is called 'mini back-to-school' period.<sup>14</sup> Educational publishers therefore ensure that their print schedules are lined up to meet these two periods. Print-runs are comprised of both the number of copies of each title and the number of titles printed at one time and are usually done to build the

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<sup>12</sup> Woll, Thomas. *Publishing for Profit: Successful Bottom-line Management for Book Publishers*; 3<sup>rd</sup> Edition. Chicago: Chicago Review Press, 2006, pp. 275.

<sup>13</sup> *Ibid.*, pp. 166.

<sup>14</sup> McGibbon, Franklin. Past president and member of Book Industry Association of Jamaica (BIAJ) telephone interview on September 12, 2013.

publisher's inventory (titles on hold for the purpose of resale). The biggest selling titles, whether backlists (titles that are over one year old) or front lists (titles less than a year old), command the highest print-runs.

It is less expensive to print off-shore than in Jamaica. Printing is usually done in the Far East (China, Singapore and to a lesser extent, Trinidad & Tobago). Print-runs are normally a minimum of 5000 which allows publishers to save 50 to 60% on printing costs than local printing.<sup>15</sup> Even when printing off-shore, publishers can get further cuts from their printing costs by shopping around for the best prices. Pricing is determined by textbook size (called trim-size), number of pages, ink colour, cover format (hardcover or paperback), binding (spiral or perfect bound), period (summer, winter spring or fall), type of printer or paper being used, print-run, weight of book, packing and shipping requirements.<sup>16</sup> Local printing is done but in small numbers and mainly in cases where publishers do not have books in stock from their regular print-runs. Like traditional publishers, self-publishers also print overseas or partner with a local printer to offset printing costs by some trade or barter agreement. Epsilon is an unusual case in that, without exception, it prints locally. The explanation and success of this arrangement are given in the upcoming chapters. Whatever off-shore or local printing method is chosen to produce titles, publishers should have the required titles in inventory at the end of the production period.

The final stage, **order fulfilment**, is comprised of those business functions that occur once the printed copies are in inventory and are ready to be sent and or delivered to the purchaser. Most publishers store the printed copies in inventory at their warehouses (storage facility). In Jamaica, educational publishers usually have their warehouses separate from their business offices with most strategically close to the harbour. This is because it is easier to directly receive, stock, and account for print books being received from off-shore printers at the Kingston Wharf where most shipments come into the country.<sup>17</sup> Many put internal warehousing

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<sup>15</sup> Ibid.

<sup>16</sup> Woll, Thomas. *Publishing for Profit: Successful Bottom-line Management for Book Publishers*; 3<sup>rd</sup> Edition. Chicago: Chicago Review Press, 2006, pp.169-70.

<sup>17</sup> McGibbon, Franklin. Past president and member of Book Industry Association of Jamaica (BIAJ) telephone interview on September 12, 2013.

structures in place at their warehouses to not only receive, and stock the print books but to also evaluate and prioritize orders. The warehouse worker normally uses a bill from the publisher's main office for orders and pick, pack and ship to the purchaser.<sup>18</sup>

At the publishers' office, structures are in place to confirm the order was shipped or issued from the warehouse. After confirmation, the order is then posted to accounts where invoices (bills) are done for the purchaser and settlement of accounts are encouraged. Purchasers usually pay cash on delivery or in most cases, produce a statement of outstanding monies owed to the publisher as a result of previously arranged consignment (a credit period, usually, between 30 to 120 days).<sup>19</sup> Traditional publishers are the main ones who suffer the adverse effects of fulfilment settlements such as collections, returns and accounts receivables (money which is owed by the purchaser for textbooks provided on credit). Because traditional educational publishers allow consignment, they also have to make the decision to employ collections officers as a part of their accounts receivables recovery strategy.

The burden of shipping and handling issues are mainly placed on traditional educational publishers who print overseas than the self-publishers who print locally. This is because traditional publishers encounter shipping and handling issues, twice. First, externally, to the overseas printers and second, internally, to the local purchasers. Jamaica is an island of only 10,911 square kilometers in total area<sup>20</sup> so there are not many issues with shipping and delivery times internally for both traditional and self-publishers. Once purchasers need orders, it can be done within specific time frames. Orders can be delivered by aeroplane, mail, drive, ride or customer pick ups and sea.

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<sup>18</sup> Woll, Thomas. *Publishing for Profit: Successful Bottom-line Management for Book Publishers*; 3<sup>rd</sup> Edition. Chicago: Chicago Review Press, 2006, pp.278-280.

<sup>19</sup> Ibid, pp. 276.

<sup>20</sup> Geography of Jamaica. Wikipedia. [http://en.wikipedia.org/wiki/Geography\\_of\\_Jamaica](http://en.wikipedia.org/wiki/Geography_of_Jamaica) (accessed June 24, 2015).

## 1.2 Background II: Epsilon's Aim and Strategies

### Aim

Like all educational publishers in Jamaica, Epsilon's best sales period is the back-to-school period of July to September. Since the motive behind its self-publishing business is profit, Epsilon's aim for 2013 centred on profiting from back-to-school 2013. To meet the inventory needs of back-to-school periods, Epsilon usually does its planning, production, promotion and its printing in fall, winter, and spring. However, 2013 was a little different. Because bookstores are one of the publisher's most loyal customers, normally, Epsilon would have had inventory to deliver textbooks to bookstores by at least May. Large volume textbook inventory for May was not the case for Epsilon in 2013. A series of events — personal, as well as operational business decisions — caused inventory (completed textbooks ready for sale, also called stock) to be depleted for 2013. So, even in the pre back-to-school period of 2013, Epsilon had been playing 'catch up' with its inventory to service textbook orders. Epsilon had to thus strategize how to best supply its 2013 textbook orders and not lose on period sales because of inventory shortages.

All strategies then centered on the company's aim. The aim was geared towards processing, producing and fulfilling inventory purchases for textbook orders and take advantage of 2013 back-to-school period sales. In short, the company's aim was: *to fulfil textbook orders from point of sale to delivery to its purchasers by way of a quick and efficient fulfilment operation* that would lead to profitability for Epsilon for back-to-school 2013. Fulfilment operation is here being used to mean the process, production and fulfilment of business operations for the period. Epsilon had to quickly strategize to line up its business operations to accomplish its aim.

## Strategies

Epsilon operates its business primarily as a self-publishing business. That is, the owner and operations manager of the company, Courtney D. Harrison, writes and owns the titles of the textbooks the company publishes. Therefore, as the operations manager, Mr. Harrison has autonomy to control the quick decisions needed pertaining to schedules, finance, printing, processing and fulfilment of business operation for the period. Self-ownership was necessary to put in place the fulfilment operation strategies of the company's aims for back-to-school 2013. The business strategy employed for the period was two-fold: (i) local and (ii) under-one-roof. Epsilon operates its business of processing, producing and fulfilling its textbook order operations from point of sale to delivery **locally** in Jamaica and **under-one-roof** at its Garelli Avenue location in Kingston, Jamaica.

Under-one-roof and local strategies were already employed as well-oiled machineries in its operation. **Local operating strategies already employed** included familiarity with purchasers' buying pattern, utility of local network, land, labour, capital and delivery. **Under-one-roof operations already in existence** were self-publishing practices of processing the orders by receiving and accepting the orders, producing and distributing the orders at its Garelli Avenue location, and utilizing Make to Order (MTO) business production strategy. MTO is acquiring inventory only when the purchaser places the textbook order. Of note is that, except for textbook covers and binding, production printing of its own books and warehousing the finished textbooks are done at the same Garelli Avenue location.

Epsilon quickly made and put through the decision to continue using its existing local and under-one-roof strategies to operate for the back-to-school period of 2013 and put in place temporary measures that could easily be lifted after the period. The temporary measures would speed up fulfilment operations and, at the same time, cause efficiency in production and distribution fulfilment operation by cutting its most expensive operational costs. The temporary measures that would affect its existing local and under-one-roof strategies are below:

### Local

- Restructure the office to create more space, accommodate increased levels of human traffic, and ease communication flow;
- Hire only long-serving acquaintances familiar with the book industry and Epsilon's self-publishing business operations. Family and friends would also be hired;
- Communicate with integral local production network to prioritize Epsilon's cover prints, binding jobs and print machine service needs during production;
- Make use of all paper from barter arrangement;
- Should the need arise, make use of business network for credit needs.

### Under-one-roof

- Increase MTO to accommodate more on-demand printing and cut unnecessary inventory prints for the period;
- Employ small and united staff unit to multi-task in various roles in-house;
- Establish the right partnerships, network and longstanding relationships for higher production output levels;
- Except where company was unequipped, do all production and fulfillment in-house;
- Cash-on-delivery account settlements with few, if any, consignments;
- Reallocate pre-packaged and pre-scheduled orders for emergency and restore same when fresh, bound batches arrive in-house.

Epsilon made the decision to incorporate the above temporary measures because it would be best for the efficiency and speed process needs of the company. It must be noted that both preexisting and temporary local and under-one-roof strategies helped to save time and cut costs and overlap in the descriptions below. The strategies are only separated in this section for interested persons who wish to implement them. Strategies are also mentioned for those interested in the specific preexisting or temporary measures of the period that the company used to help function in a fast paced and efficient environment.



## PART II: DESCRIPTION OF EPSILON'S LOCAL AND UNDER-ONE-ROOF STRATEGIES

### 2.1 Local Strategy

Epsilon's local strategy for the back-to-school period of 2013 involved operating its business in the main, from its Garelli Avenue location in Kingston, Jamaica. Local strategy better helped its self-publishing business operation fulfil the aim and strategies of the period. Described below are the local strategy of **buyer pattern services** and **land, labour** and **capital resources** of the period. As recalled, some of these strategies were preexisting and others temporary but they all involved a simplified and smooth process that helped to speed up and cut operational costs for the period. For the purposes of this report, simple will be used to mean the easy, uncomplicated and in some cases, non-technical ways in which the business operation was run and smooth will mean having no obstruction in the flow of operation.

#### Buyer Patterns

Buying Patterns are the typical manner and frequency in which Epsilon's customers place their textbook purchase orders.<sup>21</sup> Keen attention is paid to customers, especially loyal and longstanding ones, to help monitor buying trends and best meet their needs for the period. If a particular customer is longstanding, the company usually knows how many times, the main textbook titles in demand, how the purchase is to be delivered and the paying pattern of that customer. These patterns are very important to Epsilon because they help the company to prioritize its print and delivery times, and safeguards against poor customer service.

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<sup>21</sup> [www.businessdictionary.com/definition/buying-pattern.html](http://www.businessdictionary.com/definition/buying-pattern.html) (accessed June 24, 2015).

## Land

Epsilon's local main office at Garelli Avenue is referred to as its 'land' which it ably used to cut its overhead expenses. Overhead expenses were those expenses that went towards operating its business, including the costs of rent and utilities but exclusive of labour and materials.<sup>22</sup> Epsilon paid rent for use of its Garelli Avenue facility. The company rented the facility primarily because it was at a central location in the business hub of Jamaica's capital city, Kingston. At Garelli Avenue, the entity could handle all business traffic flowing to and from its customers; was small enough in its size to pay its rent or any increase thereof, yet, a large enough space to accommodate all of its operations. These operations included storage for warehousing and inventory purposes and space allocation for its digital printing production activities. Epsilon thus cut operational cost by foregoing separate warehouse and office rent and paying only one rent for its administrative, production and warehousing needs. In this way, Epsilon's business operation can be said to be simple because it had only one land rental payment.

The layout and structure of the company's facility needed restructuring because there was need for smoother communication flow, more space and faster speed. This it did in an uncomplicated way that lent itself to aiding the smooth operational flow of the various activities done at the location over the back-to-school period of 2013. The office was restructured to increase smooth operational flow and levels of production as follows:

- **An open area with minimal dividers between areas:** This was to accommodate free flow of information between staff who, at times, called to each other to settle quick information queries. Employees could easily see each other's activities. Some workdays were more hectic than others and when one worker looked over and saw another struggling with an assignment, that worker would rest his assigned activity for a while to assist and go back to his assignment. This was frequently needed, especially in the sorting stages for bulk orders.
- **Display area at the front of the office:** All titles were visibly displayed so that customers who came into the office could see all titles and easily choose their textbooks. Many did not remember the title of the book but when they saw the display, immediately

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<sup>22</sup> <http://www.thefreedictionary.com/overhead> (accessed June 24, 2015).

made an informed purchasing decision. Some deciding on the spot to add additional titles to their orders.

- **An administrative area at the front to middle section that dealt with order processing and receiving deliveries:** Separate area close to the processing area — make-shift and temporary only for the period — that aided speed and quality control in sorting, picking and packing textbook orders.
- **The reception area at the front,** mid-sections and passages were free to accommodate human traffic for clients, staff and visitors.
- **Paper for printing** was moved from the back, where it was normally stored, to the side and closer to the printers. They were restacked under a stairway in ascending and descending order against the wall. This restructure created more space for additional machinery and extra space for traffic generated internally by customers, technicians and staff.
- **Boxes for packaging** were also stored near the paper area in the mid-section in easy reach of the packing fulfilment area.
- **Close to the back was a production area** for plant and machinery where all printing activities took place. This area was cooler and offered better ventilation for the machines which were constantly working to produce textbook content. For smoother communication between personnel making print job requests and those getting the prints done, an internal phone system was put in place.
- **A back area for all inventory** was still kept where stock that was not in high period demand were kept.

Consequently, the local Garelli Avenue location was restructured to accommodate more space for increased levels of production, customer service and storage. Because the land facility was restructured in areas assigned for specific tasks, there were no obstructions or difficulties to management and staff in getting the increased inventory it needed for the company.

Additionally, the company did not need to dig into its pockets to find extra space for all its reception, display, administrative, internal human traffic, fulfilment, printing, inventory and storage needs over the back-to-school period of 2013. Thus, land assisted in a simple and smooth operation process. For faster times, all it took was restructuring space for increased levels of production. Additionally, because the areas and staff in production were close, workflow increased which led to cost effectiveness.

## Labour Resource

The work done by hired skilled workers at Epsilon during back-to-school 2013 is referred to as its labour resource. In order to meet the urgent purchase order demands of the period, Epsilon's staff complement remained lean (small in number) and local. Adjustments were made to hire and keep staff who were familiar both with the book industry and Epsilon's self-publishing business practices. This was because, in spite of the small staff complement, they united in getting assigned tasks done — even though at times long work hours were required for a higher level of textbook outputs. Overtime was paid for all extra hours and days. This was required, especially in the peak weeks of August when even weekends were used to compensate for the time needed to complete jobs. Staff was also loyal. They knew and came to expect the workload that went into producing textbooks and did not readily quit when work steadily increased throughout the period.

Additionally, adjustments to staff complement brought about supple, smooth business operations. Though each worker had an assigned job description in theory, in practice, each worker played multiple roles and, according to urgency, was flexible in prioritizing jobs on a daily basis. During the period, Epsilon's local staff complement were as follows:

### Internal

- **Family:** operations manager, accountant, administrative personnel, consultant, sorter, picker, packer, machine operator, print worker, editor, proofreader, quality control worker, etc.
- **Friends:** floated in different roles as the needs arose.
- **Good-standing acquaintances:** warehouse workers that picked, packed, labeled and sorted; delivery personnel (motorcyclist as well as van).

### External

- **Long serving and good-standing acquaintances:** sales representative, graphic designer, technology and printing technicians.

Epsilon's strategy of employing family, friends, good-standing acquaintances and long serving employees was a simple one because it avoided high staff turnover that could have affected the workflow of high level demands of the period. Additionally, it generated staff loyalty, which was essential in getting high level textbook production for the period. Epsilon's method of employing those familiar with its business and the book publishing industry caused its operation to run smoothly because less time and expenses were spent in staff training.

### Capital Resources

For the purposes of this report, capital resources are those resources invested in the production output of the saleable finished textbook product to include **plant & equipment** (machinery used in production), **monetary investments** and **delivery**. Plant & Equipment, monetary investments and delivery required entrepreneurial ability to aid in a simple yet smooth way of increased production. Entrepreneurial ability is made up of those business decisions that Mr. Harrison had to make in allocating the resources of the company to the areas where they were most needed. Where capital is concerned, over the back-to-school period of 2013, needs existed mainly with digital printing machines and PPB. Mr. Harrison's entrepreneurial ability proved to be simple, yet smooth. He used his 'people' skills for good effect in locally networking, bartering, maintaining good personal and business relationships, and managing monetary and delivery needs as follows:

- **Plant and equipment:** Epsilon used digital printing machines to print the interior content of its textbooks in black and white. Although the textbook orders done during the period were for primary school children, Mr. Harrison had a longstanding business strategy of foregoing colour interior prints as a cost-cutting measure. His entrepreneurial abilities told him that whatever sales he would have gained from those orders specifically needing coloured interior were far less than what he would have spent to get the machine he needed for coloured prints. He took the decision however to print all covers in colour. Over the years, purchasers of Epsilon's textbooks have become familiar with the interior black and white pages.

Mr. Harrison used local network relations from a local printer, Copiers & Consumables, to get digital printers of the Kyocera KM8030 model. Copiers and Consumables' technicians also serviced the printers. This business relation was a longstanding one. Therefore, the technicians knew the machines and could easily solve any problems developed during the printing process.

**Figure 2: Model of Kyocera KM8030 Digital Printing Machine**



Kingnote image<sup>23</sup>

Another important local strategy for increased levels of print output was barter. Mr. Harrison had traded his books for Chamex legal-sized paper from one of his biggest customers. This Chamex brand was used in the main to meet the bulk of the paper demand for the period. Outside of the barter arrangement, some letter-sized paper was also bought to complement the business' paper stock and accommodate emergency orders. Mr. Harrison however cut his paper cost immensely because regularly scheduled printing, in addition to automatic printing done overnight, used the legal-sized paper of the barter arrangement.

Binding the books was another area where Mr. Harrison's entrepreneurial abilities were called upon. He had good relations with a local bindery, Multi-Doc. As a result, Multi-Doc accommodated his orders, and same-day pick ups as necessary. His work became priority for that company during the period.

- **Monetary Investments:** The business required money to operate and with each additional textbook produced, increased production costs. Mr. Harrison used several

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<sup>23</sup> <http://www.kingnotecopiers.com/wp-content/uploads/2010/05/km-8030.jpg> (accessed June 24, 2015).

strategies that increased his cash flow and took care of the production bill needs of the period. First, was his personal investment gained over the publishing years. Second, he put some of the money gained from sales of the period back into the production arm of the business. Third, credit from persons in his network, including some of his business relations. For instance, without cash on delivery and based on good networking relationships, the bindery and cover page printery supplied the various production needs of the period.

- **Delivery:** Mr. Harrison's entrepreneurial ability extended to his people-skill. He arranged a motorcyclist from an agent of his network for the period. The arrangement gave him a bearer with a motorcycle. The bearer did excellent circulation and delivery jobs for fast and efficient drop offs and pick ups on his daily routes. A van was also used to do deliveries. This too was arranged from another long-standing relationship that knew the business needs, policies and expectations. Important people-skills were also used to have many of the customers actually pick up their orders at Garelli Avenue. This helped cut delivery time and travel costs for the company. Another method used in delivery was local courier for rural area drop offs and sometimes, if deliveries were going to as far as Montego Bay (easily took 7-8 hours drive for one complete trip to and from Epsilon's office in Kingston) then Epsilon used the Knutsford Express and tracked the orders via airway bills.

In retrospect, Epsilon assimilated simple and smooth methods to meet its capital resource needs. Capital resource can be said to be used in a simple way of self-printing for production orders. Another simple method of family, networking, relationships, barter and people-skills was used to tap into local network and business relationships. Epsilon used up investment resources on hand and in its immediate environment, hassle-free of interest rates, bank charges and long waiting periods that the company would have had to do to bring its business up to the credit worthy standard that a bank loan would require. In so doing, the company cut back on loan incurred expenditures. Additionally, should he not sell all his textbooks at the end of back-to-school 2013, he would not have the burden of repaying interest bearing loans at the slowest periods of inventory movement for the business.

Epsilon's delivery method was smooth because it only used local land and air circulation. In so doing, the company bypassed duty barriers, and the ensuing waiting periods of offshore shipment. Additionally, circulating locally gave the company other advantages. Because the majority of the deliveries were shared between motorcycling and customers' own order pick ups, the delivery cost and time were drastically reduced and made easier to handle.



## 2.2 Under-one-roof Strategy

Epsilon's under-one-roof strategy for the back-to-school period of 2013 involved incorporating preexisting and temporary measures to process, produce, and fulfil its textbook orders from point of sale to delivery in the main, under its Garelli Avenue roof. It did only those business functions which it could not have direct control of outside of its location. The exterior covers and the perfect binding of its titles were the only operations done external to its Garelli Avenue location and only because the company had not yet acquired the machines to do so. All processing, production, warehousing and fulfilment operations were done under Epsilon's Garelli Avenue roof with ease and minimal difficulties.

### Order processing

As previously indicated, **order processing** were those in-house business processes from orders were received at point of sale until textbooks were either sent for printing, if Epsilon did not have titles in stock, or, if titles were in stock, delivered to the customer. Orders were either received before the July to September period kicked in or, on a daily basis throughout the period.

All orders were passed on to an assigned female staff member who handled the accounts and administrative portfolio for the company. She vetted the orders with Mr. Harrison and both came to an agreement on which orders to reject or accept (those rejected were bad debt customers). Confirmed orders went to staff that picked (selected) orders. If orders were in stock, then the fulfilment arm of business operation kicked in. If none was in stock, then production would begin.

### Order Production

For the purposes of this paper, order production was the business operation that occurred once an order was accepted in-house until it was sent to an external bindery and received under Epsilon's Garelli Avenue roof from the bindery as bound completed texts. Orders that were not in stock were sent for printing according to the scheduled delivery date of an order. Thus, an order could be said to be done in priority on a 'first come, first served basis'. That is, the first

delivery due date was the first done in the print queue. So, orders due on a particular day, would normally have been printed the previous day. There was an exception to orders printed on the day before it was due. If the orders were for over 300 textbooks, then the job would be printed in small numbers over a period from at least one week before the due date of the order. If small orders (1-100 textbooks) were made that were urgent, printing could be done the same day that the orders were due. Jobs were also printed according to how many titles were already in inventory. Ongoing print-runs for the biggest title sellers were also done. For instance, the science and social studies books: *Concepts in Science for GSAT: A New Approach* and *Concepts in Social Studies for GSAT: An Easier Approach* were hot sellers and so these titles, and other titles that were being depleted on a daily basis, were printed concurrently with scheduled orders.

Once decisions were made for scheduled orders to be printed, the necessary files with the contents that were already uploaded on the computer would be sent for printing. The files would have previously undergone all its writing, editing and design stages to what was its complete development stage now ready for printing. Printing was an important process that accounted for the simplicity in Epsilon's back-to-school 2013 production operation. Files ready to be printed were sent to Kyocera KM8030 digital printing machines. There were seven machines in all that ran day and night to produce the requisite titles for the period. Once they were functioning to their optimum capacity, the Kyocera machines were able to spit out up to 80 pages per minute. As a result, this aided the on-demand printing that accounted for the fast turnaround and bulk printing of texts that were necessary to fulfil the orders for the period.

Sorting was another important production process. Print jobs were sorted in batches. If a title was being printed, one printed batch would only contain the dedication: another, the table of contents: the other, the content: etc. This was because the titles in print needed to be sorted and collated for the bindery. Someone from the fulfilment area would pick up the print batches from the print area and take it to fulfilment for sorting. The sorting area had multiple stacks of printed sheets for sorting and sheets were mainly divided into two stacks. First was the textbook content, which had the bulkiest stack, and would begin from page one to the end of the text. Contents would be stacked in a crisscrossed fashion, indicating a fresh batch. Crisscrossing was done for later print checks so any errors such as the wrong sequence in pagination, poor page quality, etc. could be verified and passed before the final collation for binding. The other stack in the sorting area were for the front matter of copyright page, dedication and table of content.

Stack with completely sorted front matter was brought together with completely sorted content stack and collated in one finished stack of complete text ready for binding.

Advanced orders were made for cover pages from local printers — Docutech, and to a lesser extent, Copiers and Consumables — and stored at Epsilon. When covers in stock were low, an internal staff member (who kept check on cover stocks) would call and make orders to replenish all depleting stocks. Covers were printed on thick, soft cover sheets, 11x17” in size. Epsilon’s bearer would normally pick up the covers that were ordered from Docutech or Copiers and Consumables and either take them back to Epsilon (for stock taking purposes) or directly to the bindery along with the sorted and collated content ready for binding.

Before textbooks ready for binding were sent to the bindery, they had to be packed, counted and recorded. The textbooks for binding were packaged in empty Chamex or Xsomo carton boxes recycled for binding purposes. Each box held on average 22-28 textbooks if they were 241 to 392 pages in size. Smaller textbook sizes with less than or just over 100 pages used far fewer boxes than the bigger sized textbooks. When textbooks were being packed, they were counted by a first counter and then a second who then recorded the count. After recording, the box was properly covered and sealed with sellotape for carriage. Boxes were also labeled.

**Figure 3: Carton Box Type and Size Used for Delivery Packages**



Google images

After packaging, textbooks were now ready for delivery to the bindery, Multi-Doc. Internal delivery personnel were important at this stage because the bearer had to ensure he took both the packaged books and the covers (already counted and packaged according to the number of textbooks being sent to the bindery). In the event covers ran out for the textbooks, which happened on various occasions during the period, the bearer would have to first pick up the

covers at either Docutech or Copiers and Consumables and then proceed to the bindery. All completely bound books were picked up at the same time that a drop off delivery for binding was made. If a particular order was needed as a priority, correspondence was made to Multi-Doc to put all other binding jobs for Epsilon on hold until the urgent order was completed. The bound copies that were returned to the office were then checked off against Multi-Doc's delivery slip(s) to see if the same order received were the orders that were sent.

Another important check was quality control. The main issue of quality was with the binding of the text's spine. The method of perfect binding was used for all Epsilon's textbooks. Because the covers were softcovers, perfect binding was the best method of binding. Perfect binding involved aligning full text pages with the softcover, cutting them together and then gluing them. A strong and flexible layer, which may or may not be the glue itself, held the books together.<sup>24</sup> When the books were being checked for quality, at times, if the books were too rushed, the glue did not stick together in an enduring quality. If this were the case, Multi-doc was notified that particular titles were of poor quality and to expect them in the batch of returns. Multi-Doc had no problems redoing the damaged textbooks and continued a good relationship with Epsilon. The batched books for returns to Multi-Doc were carried with fresh binding orders.

Staff loyalty and commitment, collaborative business network relationships and longstanding relationships were especially important during high levels of production operation needed for back-to-school 2013. During the period, persons laid aside job descriptions and did whatever work was necessary to smoothly operate the business. For instance, Mr. Harrison's job description was operations manager, yet he printed the textbooks, operated the print machines, sorted, picked, helped customers and just about anything his hands found to do. All other staff also played multi-task roles, doing various tasks as the work and time required. Collaborative network relationships existed with Docutech, Multi-Doc, and Copiers and Consumables. Management at all three businesses knew and worked well with Epsilon's staff. They assisted in the production process to give quick turnaround. Copiers and Consumables, in particular, partnered with Epsilon when the fixing of the machines needed technical service. Glitches were easily rectified so the machines were up and running throughout the period. Any discrepancy

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<sup>24</sup> Wikipedia "Paperback binding" <http://en.wikipedia.org/wiki/Bookbinding> (accessed June 24, 2015).

with service was quickly and satisfactorily resolved. Longstanding staff relationships worked effectively in that, employees went the extra mile to see to it that assigned objectives for the day were done by the end of the work day. Additionally, many of Epsilon's customers were repeat customers so if anything went wrong with an order, such as delay, then staff's people-skills usually rectify the problem so that orders were not cancelled.

In retrospect, order production required much industry but the simplicity in the operations and its smooth flow caused high level production to be bearable throughout the period. Production operations were simple because the job-sheeting, scheduling, printing, paper work, binding, sorting, collating, packing, packaging, labeling, logging, counting, delivery, verification and confirmation of binding orders were not technical. Anyone could do them. These tasks flowed in a smooth operation because staff came to an agreed understanding of the workload necessary to get the required speed, on-demand printing, quality, quantity and efficiency measures in place for the period.

Those unavoidable cover and binding production activities that were done externally were also smooth because they blended in with the internal under-one-roof production activities in a smooth operation. Operation flowed because external business relationships, networks and customers knew and understood the nature of the high level performance of Epsilon's back-to-school operations. The longstanding partnerships, networking and people-skill relationships helped rolled Epsilon, smoothly, over many rush job hurdles. There were no delays for the urgent covers, binding and technical jobs sent to Docutech, Multi-Doc and Copiers and Consumables respectively.

### Order Fulfilment

Order fulfilment was done at Epsilon for those business functions that occurred once bound textbooks were returned under Epsilon's Garelli Avenue roof, checked and confirmed as okay for inventory and delivery to purchasers. As previously indicated, bound copies needed confirmation to ensure that the quality of textbooks received from the the bindery were okay. Once the bound books were confirmed, they were warehoused either by stocking them in the fulfilment area created at the front or sent to the extreme back to be placed with other inventory for sale. Inventory was stacked in huge boxes by titles — each title had separate boxes.

A sequence of events then unfolded to get an order fulfilled from Garelli Avenue's warehouse and delivered to the purchaser. The purchaser's order was picked from stock in supply, packed in carton boxes (big orders) or large envelopes (small orders). After packing, the order was labeled using a marker or pen with the name and address of the purchaser. The order was then billed using an invoice, otherwise called a delivery slip. The invoice included Epsilon's name, address, address of the purchaser, quantity of books, title, ISBN, unit price and cost of the purchase. The purchaser would then be informed that the delivery was ready and he or she, in turn, either advised Epsilon to deliver or let the order remain at Garelli Avenue for pick up.

Epsilon settled purchasers' accounts in various ways. The predominant method was cash on delivery. Cash on delivery was paid by either cash, cheque, or lodgments directly to Epsilon's accounts. Payments were easily verified once purchasers informed the company of their lodgments. Some longstanding customers paid even before they received their order. If orders were being picked up at Garelli Avenue, then cash on delivery payments were made at the office with an internal staff and the purchaser received a receipt of payments. If the order was a drop off, then Epsilon's bearer would pick up payment at the same time he dropped off the order. The purchaser would receive a pre-written receipt from the same bearer.

Consignments were given to two main bookstores, Kingston Bookshop and Sangsters — the largest bookstores in Jamaica. Mr. Harrison personally supervised these to ensure control. Consignments were given only because, over the years, these bookstores were known to settle their accounts. However, because their orders were on consignment and inventory was in high demand, these stores had to wait longer to get their order than persons who were paying cash on delivery.

During the back-to-school period, textbook returns for Epsilon were not prolific. Causes for returns were mainly for handling and quality. Epsilon replaced damaged books, whether or not they were paid for. Textbooks were not usually returned from lack of sale because back-to-school was a peak period. Post back-to-school also had few returns, not necessarily because purchasers no longer wanted the textbooks but because some titles did better than others. In such cases, provisions were made for exchanges of titles provided the returned titles were still in saleable condition.

In retrospect, Epsilon did its own distribution from Garelli Avenue and fulfilled textbook orders in the smooth flow of a well-oiled machinery. This was because of the simple, familiar tasks that staff had to do to get an order fulfilled. Simple tasks were mainly manual and physical and comprised of: lifting and stacking textbooks, picking, packing, billing and account settlement receipts for deliveries. Tasks followed this sequential order and so fulfilment operations became less obstructive and more familiar as staff began to repeat tasks from beginning to end of the period. Familiarity and easy flow allowed speedy fulfilment of deliveries that were required for the period.

## Summary of Local & Under-one-roof Strategies

To recap, Epsilon employed the aforementioned local and under-one-roof strategies in its back-to-school 2013 fulfilment operation. These strategies helped the company capitalize on inventory sales of the period. **Local strategy** included four methods of buyer patterns, land, labour and capital. Epsilon was able to put into effect the four methods through its loyal employees, family members familiar with Epsilon's publishing needs, space restructure, networking, internal self-printing, barter arrangements and priority services from bindery and printery. These were very efficient in helping Epsilon to cut warehousing, salary, print, training, circulation, import duties, loan interests and debt costs. Increased speed was also realized because of space restructure that led to less cumbersome internal movement and greater communication. Increased speed was also realized because no staff training was needed as a result of new technology or new employees.

The **under-one-roof strategy** of processing, producing and fulfilling orders were used to capitalize on inventory sales of the period. Processes included: email, telephone, use of sales representatives and manual documentation processes. Production were: sequential production flow of job-sheeting, scheduling, printing, MTO, binding, sorting, collating, picking, packing, labelling, logging, counting and delivery. Fulfilment included: lifting, stacking, picking, packing, billing, receipting and payment settlement. All these processing, production and fulfilment measures led to efficiency and speed.

The above local and under-one-roof strategies were simple because the tasks were non-technical and smooth because operations flowed from one task to the other in sequential order yet, flexible enough to incorporate the necessary changes as circumstances arose. As a result of the simplicity and smoothness of the process, Epsilon was able to realize the speed and efficiency aims that it had set out to do. They were major boosts to the level of profitability it realized for the period.

For confidentiality reasons, this report will not go into the overall sales and level of profitability of the period for the company. However, a sample purchase order for the period will be used in the following chapter to demonstrate how its aims and strategies were implemented. With this sample, readers can surmise the level of profitability that interested investors can realize from a business such as Epsilon's.



### PART III: SAMPLE IMPLEMENTATION AND ASSESSMENT

This chapter demonstrates Epsilon's local and under-one-roof fulfilment operation strategies using one of its customer's textbook order of the back-to-school 2013 period as a sample demonstration of same. The customer that is chosen is an independent bookstore called Turning Pages. Turning Pages' textbook order purchases from Epsilon for the period will be used to demonstrate how Epsilon implemented local and under-one-roof strategies. Epsilon did so using temporary and preexisting measures in a simple and smooth process that led to efficiency and speed. Thereafter, a performance assessment section will follow that shows how the implementation of Turning Pages' back-to-school textbook purchase orders proved worthwhile for Epsilon during back-to-school 2013.

### 3.1 Implementation

Turning Pages is a small independent bookstore located in Old Harbour, St. Catherine, a suburban community in Jamaica. The owner, Mr. Lamont Bourne, is a longstanding Epsilon customer that does business with Epsilon almost from Epsilon's 2008 inception. Epsilon is therefore familiar with Turning Pages' **buying pattern** and processes his orders accordingly.

Turning Pages usually buys in two main periods — January for practice tests textbooks in time for upcoming March or April GSAT examinations and summer, for back-to-school. Turning Pages' main customers are parents, teachers or schools who orders their books based on titles from their school textbook lists. Therefore, Turning Pages usually purchase from Epsilon based on the main demand for the titles on parent's booklists for the back-to-school period. So, for its 2013 back-to-school purchase from Epsilon, Turning Pages ordered 60 books on August 5<sup>th</sup>, 2013. This purchase represented his first and main purchase for the period and was called in by telephone on the morning of August 5, 2013 for a same-day order pick up as follows:

➤	8	<i>Concepts in Language Arts for GSAT: Mastering Rudiments</i>
➤	8	<i>Concepts in Mathematics for GSAT: A Firm Foundation</i>
➤	8	<i>Concepts in Science for GSAT: A New Approach</i>
➤	8	<i>Concepts in Social Studies for GSAT: An Easier Approach</i>
➤	4	<i>Concepts in Language Arts for GSAT: Practice Tests</i>
➤	4	<i>Concepts in Mathematics for GSAT: Practice Tests</i>
➤	4	<i>Concepts in Science for GSAT: Practice Tests</i>
➤	4	<i>Concepts in Social Studies for GSAT: Practice Tests</i>
➤	3	<i>Easy Pass for GSAT Language Arts</i>
➤	3	<i>Easy Pass for GSAT Mathematics</i>
➤	3	<i>Easy Pass for GSAT Science</i>
➤	3	<i>Easy Pass for GSAT Social Studies</i>

Same-day order pick up was accommodated for Mr. Bourne because he was familiar with Epsilon's same-day printing service and also because he was a longstanding customer. He therefore picked up his orders on particular days when he made his trips into Kingston towards the end of business day. If enough titles were not on hand from his list of orders for same-day pick ups, Turning Pages would inform Epsilon how to get the remaining orders to him — usually via courier, Epsilon's motorcycle service, or when Mr. Bourne come into Kingston to collect them himself.

Having received Turning Pages' order by telephone, Epsilon's staff unit, already familiar with Turning Pages' buying pattern, immediately went to work to **process** the orders. Staff did simple tasks of logging Mr. Bourne's telephone order, vetting and confirming with the accounting staff as well as Mr. Harrison who both quickly gave consent based on Turning Pages' longstanding relationship with Epsilon. Under its Garelli Avenue roof and, along with all the other 2013 orders of the period, Epsilon's processing, production and fulfilment areas were restructured to accommodate Turning Pages' orders. The open area at the front with minimal dividers, the temporary area created for processing, sorting, picking and packing, the mid-section for packing and fulfilling and the back area for printing played integral roles in expediting the same-day order. This restructure gave rise to a smooth operational flow as staff easily moved and got the necessary materials to make the order. An assigned staff member easily picked the logged order, that is, checked inventory to see if all were in stock for Turning Pages. Those titles that were not in stock for the full quota of 60 titles were made from printing production that was already underway using MTO production to complete the order.

Multiple files were already printing, in black and white pages, on the machines when the outstanding titles to complete Turning Pages' orders were received as print job orders for digital printing. Turning Pages' orders were thus made in a smooth production flow from those in print, those printed already and ready for sorting, and those already sorted and in bindery to be returned as whole textbooks. For those in print, one particular machine was programmed to finish its present batch and fresh files were sent to do only books for Mr. Bourne's orders. Textbook content files (pages 1 to end) was first printed and placed in one stack. The front matter was then printed and placed in another stack. Once printing was completed, different staff went to work to finalize the order. Staff checked the print stacks page by page for printing errors with a flipper (tool used to quickly turn pages during page checks). The completed, error free stacks were sorted by collating the front matter stack with the content stack to make one crisscrossed stack of completed texts.

**Figure 4: Model of Collated Crisscrossed Stack**



Google image: <http://www.cctradebindery.com/collating.htm>

Another staff then picked up each completed text and separated them with elastic bands for packing. He then packed the books into carton boxes, counted and logged the numbers and labeled the box for sending to the bindery. A count of the coloured cover pages (they were already printed and in stock) and selection of the correct cover count to match the number of texts to be sent were done and sent to the bindery with motorcycle bearer.

At the bindery, the bearer took back to Epsilon's office all the books that he could carry that were already bound. The returned books from the bindery were checked for correct numbers, errors and quality. The bound texts were then logged and those that needed to be returned to the bindery were placed with others to be sent on another of the bearer's trip. Turning Pages' orders were then selected from error-free bound texts that were confirmed as checked.

Therefore, for Turning Pages' August 2013 order, a minimum of two trips (to and from the bindery) completed his orders for August. From the morning when the order first came in until the time it took to completely package the order, anywhere between five to six hours could have passed bearing in mind that Turning Pages August order was not the only ones being printed. Turning Pages' August order was then invoiced, placed in a box and packaged with his 60 textbooks for Mr. Bourne's pick up. This he did on same evening scheduled for pick up on August 5, 2013. When he picked up this order, Mr. Bourne paid his bill upfront.

Turning Pages made a smaller order of 16 texts for back-to-school 2013 on September 6, 2013 as follows:

- 2 *Concepts in Language Arts for GSAT: Mastering Rudiments*
- 2 *Concepts in Mathematics for GSAT: A Firm Foundation*
- 6 *Concepts in Science for GSAT: A New Approach*
- 6 *Concepts in Social Studies for GSAT: An Easier Approach*

This order of 16 texts was already in stock and so was simply picked and packaged for pick up. Again, Mr. Bourne picked up the delivery package for this order. He also immediately settled the bill for this order.<sup>25</sup>

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<sup>25</sup>Interview on February 12, 2014 with Mr. Bourne re settlement of his accounts. Also from Epsilon's invoice records.

Local and under-one-roof strategies were implemented using temporary and preexisting measures that were simple and smooth in process for the 76 titles that Turning Pages ordered in total during back-to-school 2013. **Local strategy implemented for Turning Pages' orders were as follows:**

- Space that was already restructured for fulfilment operations of the period (temporary measure).
- Buyer pattern practices that helped satisfy and retain Mr. Bourne as a customer (for example, signing off on his same-day pick up because of familiarity with Mr. Bourne's buying habits).
- Easy and smooth operational flow because staff was familiar with Epsilon's fulfilment operation.
- Using paper from barter arrangement to print some of Turning Pages orders (temporary measure).
- Priority service from Multi-Doc.

**Under-one-roof strategies implemented for Turning Pages orders were as follows:**

- Order process: simple tasks of receiving Turning Pages telephone order and following through until it was signed off.
- Order Production: Use of MTO services to complete order. Print in-house, send to and receive from bindery to complete order.
- Order fulfilment: Lifting, stocking, picking, packing, labelling and billing Turning Pages' orders as necessary. Collecting payment when Mr. Bourne picked up the order and giving receipt for same (temporary measure).
- Storage for Turning Pages' orders at Garelli Avenue.

In retrospect, Turning Pages made two orders for a total of 76 titles for the back-to-school period of 2013 being covered in this report. Epsilon fulfilled the orders according to the company's overall strategy to do so locally and under-one-roof. A combination of temporary and preexisting measures were used in a simple and smooth operational flow. An assessment will be done in the upcoming section to ascertain whether the strategies implemented for Turning Pages orders were successful according to Epsilon's aim. That is, fulfilling Turning Page's textbook orders from point of sale to delivery in a quick, efficient fulfilment operation that would capitalize on inventory sale and lead to profit for Epsilon for back-to-school 2013.

### 3.2 Assessment

Textbook inventory is a significant investment for any publishing company as it is asset that the company can sell to generate revenues for the company. Epsilon’s sale of 76 textbook inventory to Turning Pages was a significant investment as it generated revenues for the company. Revenues received from sale of the 76 textbooks were \$134,400 as shown in the table below:

**Table 1: Breakdown of Inventory Sales By Title for Each Title Sold to Turning Pages and Total Revenues**

<b>Title #</b>	<b>Textbook Title</b>	<b>Selling Price \$JA</b>	<b># of Units Sold</b>	<b>Total \$JA</b>
1	<i>Concepts in Language Arts for GSAT: Mastering Rudiments</i>	2025	10	20250
2	<i>Concepts in Mathematics for GSAT: A Firm Foundation</i>	2025	10	20250
3	<i>Concepts in Science for GSAT: A New Approach</i>	2025	14	28350
4	<i>Concepts in Social Studies for GSAT: An Easier Approach</i>	2025	14	28350
5	<i>Concepts in Language Arts for GSAT: Practice Tests</i>	1350	4	5400
6	<i>Concepts in Mathematics for GSAT: Practice Tests</i>	1350	4	5400
7	<i>Concepts in Science for GSAT: Practice Tests</i>	1875	4	7500
8	<i>Concepts in Social Studies for GSAT: Practice Tests</i>	1350	4	5400
9	<i>Easy Pass for GSAT Language Arts</i>	1125	3	3375
10	<i>Easy Pass for GSAT Mathematics</i>	1125	3	3375
11	<i>Easy Pass for GSAT Science</i>	1125	3	3375
12	<i>Easy Pass for GSAT Social Studies</i>	1125	3	3375
	<b>Final Total</b>			<b>134400</b>

Table 1 breaks up Turning Pages’ orders into titles. Total titles purchased for the 76 textbooks were 12. The selling price, multiplied by number of units (individual textbooks) sold to Turning Pages give the total selling price by title and the final revenue generated from all titles.

To see whether or not inventory sales revenue was worth all of what Epsilon had invested in Turning Pages order, one has to look back at the original aims of the company. It can be recalled that Epsilon aimed to fulfil its textbook orders from point of sale to delivery in a quick and efficient fulfilment operation. This was to capitalize on inventory sale that would lead to profitability for the company for the period. Therefore, to evaluate Epsilon's performance on Turning Pages' 2013 back-to-school textbook orders, an assessment will be done using Key Performance Indicators (KPI)<sup>26</sup>, a success measurement that helps to assess how a company performs in achieving its goals. KPIs give the quantitative (numerical) assessment needed to tell the specifics of how successful Epsilon was in accomplishing its aims. For the purposes of this assessment, integral KPIs that will be used are first, **production operating expenses directly tied to inventory**. This KPI assesses Epsilon's goal of an efficient fulfilment operation for the 76 units of Turning Pages' inventory sale and the profitability of same. Second, KPI's **inventory turnover** will be used to assess how quick inventory was turning into cash from Turning Page's purchases of the period. Finally, because this report takes into consideration the aim of fulfilling Turning Page's textbook orders from point of sale to delivery, KPIs will also be used called **customer service level and fulfillment accuracy rate**. These measure Epsilon's level of customer service to Turning Pages in terms of whether or not Epsilon actually fulfilled Turning Pages orders when and where Turning Pages wanted the orders and if the company did so accurately from point of sale to delivery.

### **Production Operating Expenses Directly Tied to Inventory KPI: An Assessment of the Efficiency of Epsilon's Fulfilment Operation on Turning Pages' Order**

The KPI assessment below is production operating expenses directly tied to producing Turning Pages' inventory. In meeting its production aims for Turning Pages, Epsilon absorbed costs to produce each 76 unit of textbook. Epsilon used a "full absorption costing" method to calculate the cost of production for each text it produced for Turning Pages. Full absorption is an accounting method of expensing all costs the company absorbed in getting the inventory for Turning Pages order. These costs can be broken into fixed costs (expenses that remain constant

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<sup>26</sup> <http://management.about.com/cs/generalmanagement/a/keyperfindic.htm> (accessed June 24, 2015).

such as rent that goes directly into production) and variable costs (expenses that change such as paper, toner, binding, cover, transportation, etc., but also go directly into production).

Below is the full absorption cost that was used to calculate each textbook unit of Turning Pages' orders. Except where indicated, all costs will be given in Jamaican dollars. Total fixed cost was \$4,560 and total variable cost \$39,298.07 for a total production cost of \$43,858.07. *From total full absorption cost calculations, it actually cost the company \$43,858.07 to produce inventory that fulfilled Turning Pages 76 textbook orders for back-to-school 2013.* Bear in mind that the total number of pages that Epsilon printed for Turning Pages 76 textbooks was 22,347, calculation of which is shown in Appendix C, and is integral to final absorption cost calculations. See Table 2 below for calculations:

**Table 2: Full Absorption Cost Indicating Variable & Fixed Costs of Production Per Textbook to Produce Each text of Turning Pages' Orders for Back-to-school 2013**

Description	Per Unit Cost \$JA	Textbook	\$JA
<b>Fixed Cost</b>			
Rent (to include warehousing)	60	x 76 textbooks	4560
Kyocera Printing Machines*1	0	x 76 textbooks	0
<b>Total Fixed Cost</b>			<b>4560</b>
<b>Variable Costs</b>			
Paper (40% non-barter)*2	0.60	22347 pages	13408.20
Toner	0.30	22347 pages	6704.10
Binding	45.00	x 76 textbooks	3420.00
Cover	75.00	x 76 textbooks	5700.00
Transportation*3	0.10	x 76 textbooks	7.60
Delivery (Shipping)	0	x 76 textbooks	0
Print (In-house Print)*4	--	--	--
Utilities (electricity)*5	0.01	22347 pages	223.47
Maintenance*6	0.10	22347 pages	2234.70
Training*7	0	22347 pages	0
Other (including salary & supplies)*8	100	x 76 textbooks	7600
<b>Total Variable Costs</b>			<b>39298.07</b>
<b>Total Production Cost</b>			<b>43858.07</b>



**KEY:**

- \*1: No costs were incurred for printing machines during the period.
- \*2: Paper costs the company 40% (\$13408.20) for Turning Pages' orders during back-to-school 2013. Sixty percent (\$20,112.30) paper was paid for via barter arrangement in November 2013.
- \*3: No shipping costs were incurred as Turning Pages picked up the orders. Transportation cost incurred was for errands relating to print, cover and binding.
- \*4: Printing costs included covers, paper, toner, binding and maintenance that are included in the table above.
- \*5: The bulk of utility costs was electricity. Water was already included in rental fee of property. Minimal phone fees are also included in utility.
- \*6: Maintenance were mainly related to repairs for printing machines and equipment and not maintenance of the property (property maintenance was included in rent).
- \*7: No training costs pertaining to technology or new staff were incurred.
- \*8: Other includes salary for staff, other labour costs, and miscellaneous fees pertaining to fulfilling Turning Pages' orders such as office and packaging supplies. Bulk of packaging incurred insignificant costs because Chamex paper cartons were recycled for Turning Pages' packaging.

Epsilon would want to know that the \$43,858.07 it spent in production costs on Turning Pages' orders was recovered through inventory sale. Because Epsilon's sales for Turning Pages' 2013 textbook orders generated \$134,400 in revenue, also known as income, then it is clear that Epsilon recovered its production costs when \$43,858.07 of production costs is deducted from the \$134,400 of sales revenue. What is left of the deduction is called a profit (sales revenue minus all costs in producing Turning Pages orders) and is a total of \$90,541.93. Epsilon therefore made an initial or gross profit of \$90,541.93 but, according to Jamaican tax laws, after corporate income tax of 25% was deducted, a final profit of \$67,906.45. Profit calculations are exemplified below:

	<b>J\$</b>	<b>J\$</b>
Inventory Sales Revenues		134,400.00
Cost of Production	<u>43,858.07</u>	
<b>Gross Profit</b>		<b>90,541.93</b>
Corporate income tax (25%)	22,635.50	
<b>Net Profit</b>		<b>67,906.43</b>

## Net Profit Margin as an Indicator of Efficiency in Fulfilment Operation

A net profit of \$67,906.45 is better expressed as a percentage of total sales income generated from inventory sales — usually expressed in percentages for industry comparison purposes and is called a net profit margin.<sup>27</sup> The net profit margin from Turning Pages’ orders is 51% (see calculation below):<sup>28</sup>

$$\begin{aligned} & \text{\$J} \\ \text{Net Profit Margin (net profit/revenue *100)} &= \frac{\mathbf{67906.45}}{\mathbf{134,400.00}} = \mathbf{0.51} \\ & \mathbf{0.51*100= 51\% \text{ Net Profit Margin}} \end{aligned}$$

A net profit margin of 51% on Turning Pages orders is a high one when compared to publishing industry margins. According to Franklin McGibbon, former chair of the Book Industry Association of Jamaica, Educational publishing industry profit margins for Jamaica usually “fluctuate in any given year between 20-30% after tax, insurance and such expenses are deducted.”<sup>29</sup> To go further afield, Statistics Canada 2012 book publishing report revealed profit margin for Canada’s publishing industry to be 9.4%.<sup>30</sup> Because 51% profit margin is a margin for a single order and not Epsilon’s back-to-school period, one has to bear this in mind for industry margin comparisons. Epsilon’s profit margin would have been lower had it been done on a yearly basis and for all of its inventory sales of the period as the above industry profit margins indicate.

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<sup>27</sup> <http://smallbusiness.chron.com/calculate-gross-profit-margin-percentage-4133.html> (accessed June 24, 2015).

<sup>28</sup> [http://en.wikipedia.org/wiki/Profit\\_margin](http://en.wikipedia.org/wiki/Profit_margin) (accessed June 24, 2015).

<sup>29</sup> McGibbon, Franklin. Past president and member of Book Industry Association of Jamaica. Personal interview on 26 August 2014.

<sup>30</sup> Statistics Canada. Service Industries Division. *Book Publishers: 2012*. Ottawa: Minister of Industry, 2014, pp. 10. “Summary statistics for the book publishers industry, province and territory, 2008 to 2010”. Available at <http://www.statcan.gc.ca/pub/87f0004x/87f0004x2013001-eng.pdf> (accessed June 24, 2015).

Nevertheless, a net profit margin of 51% is still a desirable one. This is because, when expressed as a ratio (division of net profits to revenue) it meant that .51 cents out of every dollar of Turning Pages' inventory sale was actually profit for Epsilon.<sup>31</sup> In other words, .51 cents, is a net profit margin ratio that gives the key performance indication of the profitability of Turning Pages' inventory sale.<sup>32</sup> Below is calculation:

$$\begin{array}{r} \text{\$J} \\ \text{Net Profit Margin Ratio (net profit/revenue)} = \frac{\underline{67906.45}}{134,400.00} = .51 \text{ cents} \end{array}$$

Though Epsilon, enjoyed profitability of .51 cents out of every dollar it spent on Turning Pages' orders, better still, the company enjoyed efficiency performance on what it spent on fulfilling the order. Efficiency is here being used to mean Epsilon's performance on its fulfilment operation for Turning Pages' order. Efficiency can be calculated as a ratio of costs to revenue as follows:<sup>33</sup>

$$\begin{array}{r} \underline{\text{Costs (43858.07)}} = .33 \text{ cents} \\ \text{Revenue (\$134,400)} \end{array}$$

Epsilon would desire a low efficiency ratio because it would indicate a measurement of low costs on what it must spend to make one dollar. Only .33 cents is coming out of every dollar Epsilon spends to fulfill Turning Pages' order. Overall, both profitability and efficiency ratio calculations are indication that Epsilon made considerably more than it spent on production and fulfillment operation for Turning Pages' orders.

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<sup>31</sup> <http://www.wisegeek.com/what-is-a-high-profit-margin.htm>(accessed June 24, 2015).

<sup>32</sup> <http://accounting-simplified.com/financial/ratio-analysis/net-profit-margin-percentage.html> (accessed June 24, 2015).

<sup>33</sup><http://financial-dictionary.thefreedictionary.com/efficiency+ratio> (accessed June 24, 2015).

### Reasons for high net profit margin

Because net profit margin is such an important factor in indicating the profitability of Epsilon's fulfilment operation, it becomes important to find out what caused such a high profit margin that aided Epsilon in achieving its goal to capitalize on inventory sale and profit from same. Many factors caused a 51% net profit margin on Turning Pages order. As indicated previously, all of Epsilon's textbook sales for the period were not included in the 51% net profit margin which helped an above-normal profit margin. The low operating costs (see absorption cost calculation above) to produce the books may also have caused an above-normal percentage profit. Most importantly, Epsilon employed unconventional educational publishing ways in meeting Turning Pages' purchase order needs which may have contributed to this high level of profitability. For unconventional publishing methods, see Table 3 below:

**Table 3: Unconventional Fulfilment Methods of Producing Turning Pages' Orders**

<b>Epsilon (unconventional)</b>	<b>Traditional (conventional)</b>
Local	Non Local
Under-one-roof (including warehousing)	Non Under-one-roof (separate warehousing)
MTO print	Bulk Print
Black and White	Coloured
Self-Print	Non Self-Print
Cash on Delivery/Minimal line of Credit	Line of Credit

It is not normal for Jamaican educational publishers to produce their inventory internally, locally, under-one-roof, self-print with MTO and in-house warehousing operations, and do same-day pick ups. It is also not normal for accounts to be settled immediately in the educational publishing industry. Epsilon could have chosen to use traditional educational publishing route's method of printing with local printers or international printers in Trinidad, the US, or China<sup>34</sup> to produce and fulfil Turning Pages' orders. Epsilon would have also met its

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<sup>34</sup> McGibbon, Franklin. Past president and member of Book Industry Association of Jamaica. Telephone interview, September 12, 2013.

inventory needs the same day from multiple inventory already in stock from these traditional routes.

If Epsilon had chosen to do its printing by traditional educational printing methods, the company would have chosen Phoenix Printery Limited as a local choice and a Chinese printer such as China Printing Solutions International offshore.<sup>35</sup> To print from either of these printers, Epsilon would have had to be printing a minimum of 2500 copies of each title for it to be worth the company's choice of external printers. The more titles printed, the less per unit costs are paid in printing and so traditionally, it is the norm for publishers to print in bulk orders and store same as inventory to meet purchase orders. For instance, if Epsilon had chosen to print internally *Concepts in Science for GSAT: A New Approach*, one of his bestselling titles, he would have made a profit of 50.71% for producing 2500 print-run. If the company had chosen to do the same print-run for the same title locally from Phoenix Printery Limited, then his profits would have been less (48.70%). If he had chosen China Printing Solutions International for a minimum of 2500 print-run of the science title then his profits would have been more at 61%. See Appendix D for comparative net profit margin calculations of the various print options discussed. Also, all calculations and quotation for Epsilon's printing options using *Concepts in Science for GSAT: A New Approach* as a sample per unit textbook are in Appendix B i, ii and iii.

These local and international options would have incurred liabilities for Epsilon to include bank notes with interests payable to a financial institution and illiquid inventory (assets that theoretically could turn into cash but may not sell). Also, without sales, inventory could be sitting for years incurring separate warehousing expense for storage. If Epsilon had chosen to forego its present methods of production to meet its printing needs, it would have been necessary for Epsilon to take out a loan, like most publishers in Jamaica. He would not have had the money upfront to pay the printers for bulk order printing.

Epsilon uses its profits from back-to-school sales to help with its cash flow during the period and to cushion its revenues for other periods where sales are not as high. Therefore, whatever level of profit Epsilon would have experienced from Turning Pages' (or other) orders, including the higher profits from China Printing Solutions International, would have gone into

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<sup>35</sup> Harrison, Courtney D. Interview, March 11, 2014.

running costs (the amount regularly spent to operate an organization) to operate Epsilon instead of liquidity (cash flow) to operate its business. Also, there would be a reduction of the option to use, if the company chose to do so,<sup>36</sup> a chunk of its profits to reinvest in the company.

Reinvestment would be done to assist in other periods where profitability are not as high — a shrewd business decision and practical use of entrepreneurial ability in an educational publishing world where sales are very periodic. Another option that Epsilon could have chosen, which most businesses tend to do from high profit margins, is to use the high surplus as a form of investment attraction to its business. It would be an indication of how well the company is utilizing its resource to increase the financial health, shareholder value and management control of the company.<sup>37</sup>

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<sup>36</sup> General observation of Epsilon's business practice.

<sup>37</sup> <http://johanhbunger.com/financial-analysis/> (accessed January 20, 2015).

## **Inventory Turnover KPI: An Assessment of the Speed of the Fulfillment Operation for Turning Pages' Purchase Order.**

The speed of inventory fulfillment operation for the 76 textbooks Turning Pages ordered can be found through what is called an inventory turnover ratio. Inventory turnover ratio gives the rate at which Turning Pages' inventory moved or completely sold through the period being covered in this report, July to September 2013. It is recalled that the 76 textbooks that Turning Pages bought were not all purchased at the same time, neither did Epsilon manufacture them all at the same time. The 76 textbooks were fulfilled over the 3 month period from inventories that Epsilon already had in stock as well as done in same day MTO production. In order to find out the speed or turnover rate of inventory for the period, it becomes necessary to find the flow of inventory from the beginning of July to September and the various costs associated thereof for Turning Pages' order.

Inventories in a manufacturing company such as Epsilon's are items purchased (or created) for (a) production or (b) selling.<sup>38</sup> The items are usually reported in units. A unit is each individual item produced or sold to customers. For Epsilon, unit is each of the individual textbook sold to Turning Pages. Inventories are usually reported at cost price and **NOT** sales price. The flow and costs of inventory from July to September for Turning Pages' orders will therefore take into consideration the cost price for **opening inventory** (inventory at beginning of period), the **purchases** Epsilon made to produce the inventory as well as the **ending inventory** (inventory at the end of the period). These cost prices are then moved to **cost of goods sold** (cost of inventory sold) to be reflected on Epsilon's income statement and will be an indication that the 76 inventories of the period are sold. Once the values for opening and closing inventories, purchases and cost of goods sold are known then the speed of fulfillment operation for Turning Pages' order can be calculated using inventory turnover ratio.

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<sup>38</sup> <http://simplestudies.com/manufacturing-nonmanufacturing-costs.html/page/3#Product-Manufacturing-Costs-And-Period-Nonmanufacturing-Costs>

Inventory Turnover ratio can be calculated using the formula: Cost of goods sold ÷ ending inventory × number of time period. This formula broken down can be expressed as:

$$\frac{\text{Cost of goods sold} = \$ \text{beginning inventory} + \text{purchases over a defined period} - \text{ending inventory}}{\text{ending inventory} \times \text{number of time periods}}^{*39}$$

A worksheet displaying calculations of the various values for the above formula follows:

**Worksheet**  
**Inventory Turnover Ratio Calculation**<sup>\*1</sup>

Opening Inventory = cost of goods sold – purchases + ending inventory  
43,858.07–29232.30+5857.92  
\$20483.69

Purchases = Cost of materials for 76 textbooks  
Paper + Toner + Binding + Cover  
13,408.20 + 6704.10 + 3420 + 5700  
\$29232.30

Ending Inventory = units × average cost price of first set of units sold to Turning Pages  
16×366.12<sup>\*2</sup>  
\$5857.92

Cost of Goods Sold<sup>\*3</sup> = beginning inventory + Purchases (July - September 2013) – ending inventory  
20483.69 +29232.30–5857.92  
\$43,858.07

<sup>\*1</sup> (a) All price values are Jamaican Dollars (b) For cross-reference purposes, one may find the following relevant to calculating values for the ratio: Appendix A (calculation method of production costs per textbook unit), Appendix C, (Page count and total # of pages).

<sup>\*2</sup> Unit costs are not always the same. An item purchased today, can increase or decrease tomorrow. So, when calculating unit costs as is necessary for ending inventory above, then an accounting method must be used to calculate the unit cost of inventory for the period (known as cost flow assumption). Various cost flow methods exists but Epsilon used LIFO (Last in First Out) to calculate average cost price for the 16 units of ending inventory because the most recently produced textbooks are usually the first to go.

<sup>\*3</sup> Cost of goods sold could have also been found using the formula Sales (\$134,400) - Gross Profit (90541.93) = \$43,858.07; the same figure of the above calculation.

<sup>39</sup> \*Number of time periods is typically 12 months but for the purposes of this report, 3 months



Values for inventory turnover formula can now be inserted to give the rate of turns as follows:

$$\text{Inventory turnover} = \frac{\text{cost of goods sold } (\$43858.07)}{\text{ending inventory} (\$5857.92) \times \text{number of time periods } (3)} = 2.5 \text{ turns}$$

Epsilon's inventory turnover ratio for Turning Pages order was 2.5. What this means is that Epsilon completely sold through Turning Pages' inventory order at least twice during the July to September period of back-to-school 2013. There is no universal or ideal inventory turnover ratio. However, financial analysts suggests that a favourable turnover ratio is dependent on the type of business being operated.<sup>40</sup> Turning Pages' 2.5 turnover ratio is above educational book publishing industry averages. According to Tom Woll, President of the well-regarded principal of Cross River Publishing Consultants, "The 'normal' turn for an educational publisher [is] probably .75 or more...".<sup>41</sup> BizMiner, operating out of the United States and a leading North American financial industry analyst gives its report for book publishing industry inventory turnover ratio to be 1.21.<sup>42</sup> Like the preceding high net profit margin percentage, the doubling of inventory turn ratio is high and above industry average. This is more likely due to single customer transaction being reflected over a 3-month period; unlike multiple customers over a 12-month period which is usually reported for industry averages.

From these comparisons, the sell-through rate from Turning Pages' inventory was at least twice enough not to have shortages, missed sales opportunity or tie up cash from lack of inventory sale. The danger of such a high speed of inventory turn is that Epsilon could have run out of inventory and missed out on periodic sales opportunity from the back-to-school period. Having completely sold through or turned over Turning Pages' inventory two-and-a-half times

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<sup>40</sup> Zimmerer T., Scarborough N. *Entrepreneurship and New Venture Formation*. New Jersey: Prentice Hall Inc., 1996, pp. 277.

<sup>41</sup> Woll, Tom. Email message to Woll on July 31, 2014.

<sup>42</sup> BizMiner. "Industry Financial Ratios". *BizStats*. [http://www.bizstats.com/corporation-industry-financials/information-51/publishing-industries-511/book-publishers-511130/show?asset\\_class\\_id=4](http://www.bizstats.com/corporation-industry-financials/information-51/publishing-industries-511/book-publishers-511130/show?asset_class_id=4) (accessed June 24, 2015).

for the period, there is an indication that the fulfilment operation on Turning Page's order was quick. Quickness is a trend in the right direction in fulfilling the speed aim of the period as well as a right step for any decisions Epsilon would want to make to improve inventory performance.<sup>43</sup>

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<sup>43</sup> <http://yourbusiness.azcentral.com/company-want-high-low-inventory-turnover-2969.html> (accessed June 24, 2015).

## **Service Level and Fulfillment accuracy KPIs: Assessment of Levels of Customer Service and Fulfillment Accuracy from Point of Sale to Delivery for Turning Pages' Orders**

The level of its customer service in fulfilling Turning Pages' orders from point of sale to Mr. Bourne's pick up, uses order line KPI service level of measurement. The order line formula considers the number of textbooks that Epsilon completely delivered at its promised dates of delivery and also the number of textbooks Turning Pages ordered. The formula and the following calculation give the percentage of Epsilon's fulfilment rate for Turning Pages' orders:<sup>44</sup>

$$\text{Customer Service Level fulfilment} = \frac{\text{number of textbooks completely delivered within or by promised date (76)}}{\text{Total number of textbooks ordered (76)}}$$

$$76/76=100\% \text{ customer service level fulfilment}$$

In other words, Epsilon fulfilled Turning Pages' back-to-school order at a 100% fulfilment rate. The company also fulfilled the orders on time, when Turning Pages wanted it on August 5 and September 6 respectively and where Turning Pages wanted it at its Garelli Avenue location. Average service level thus amounted to 100%.

Similarly, Epsilon's level of accuracy in fulfilling the orders amounted to a 100% accuracy rate as shown in the formula below:

$$\text{Fulfilment Accuracy Rate} = \frac{\text{Number of accurately fulfilled orders (76)}}{\text{Number of orders delivered (76)}}$$
$$76 \div 76 = 100\% \text{ fulfilment accuracy}$$

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<sup>44</sup> <http://www.waspbarcode.com/buzz/inventory-analysis-simplified-turnover-customer-service-level-stockouts/> (accessed June 24, 2015).

In retrospect, Epsilon's implementation of local and under-one-roof strategies to fulfil Turning Pages' textbook orders for the back-to-school period of 2013 proved successful. This success was based on KPI performance assessments of Turning Pages' sample textbook purchase orders for the 2013 back-to-school period. The results of 51% profitability of its operations, a .33 efficiency ratio, a 1.4 inventory turnover ratio and finally, 100% fulfilment and accuracy rates were successes. These results were successes because they were not only on par and above educational publishing industry averages but also a worthwhile investment for Epsilon's publishing business. The worthwhile investment stemmed from the high profit the company realized when it capitalized on inventory sales to Turning Pages. Turning inventory sales into meaningful profit meant Epsilon was running a healthy business operation that would make any interested or potential investor happy with Epsilon's business.

## CONCLUSION

Epsilon successfully implemented its local and under-one-roof strategies. This was so because the company's aim to process, produce and fulfil textbook orders for the back-to-school period of 2013 was achieved. The company took advantage of a quick and efficient fulfilment operation that helped it profit from inventory sales of back-to-school 2013. **Local strategies were put into effect by way of the company's resources of land** (office, rent, layout); **labour** (internally and externally) and **capital** (machinery, plant, equipment, monetary investments and delivery). These resources aided in generating revenues from its textbook inventory sales and contributed to accomplishing the company's plans of the period. Also in the company's strategy were temporary and preexisting measures that were simple and smooth. These measures helped reduce costs and save time to meet inventory sale needs of the back-to-school 2013 period. Similarly, the **Under-One-Roof strategies of order process, production and fulfilment** were carried out using temporary and preexisting measures in a simple and smooth process that saved costs and time. These measures enabled the company to take advantage of profits from textbook inventory sales. As a result, Epsilon experienced profitable inventory sales during the back-to-school period of 2013. Epsilon's achievement of implementing the local and under-one-roof strategies it had set out to do significantly contributed to the company's successful achievements of the period. Should publishers choose to invest in their textbook inventory processing, production and fulfilment operations in like manner as Epsilon, it is safe to say that they too can expect profitability from same.

## **APPENDICES**

## Appendix A: Calculation Method of Production Costs per Textbook Unit

### Variable & Fixed Costs of Production per Unit to Produce Each Unit of Textbook Epsilon Produced for Back-to-school Textbook Orders

Description	Unit cost \$JA	Textbook
<b>Fixed Cost</b>		
Rent	60	per textbook
<b>Variable Costs</b>		
Paper	0.60	x textbook pages
Toner	0.30	x textbook pages
Binding	45.00	per textbook
Cover	75.00	per textbook
Transportation	0.10	per textbook
Utilities (electricity)	0.01	x textbook pages
Maintenance	0.10	x textbook pages
Other (including labour)	100	Per textbook

## APPENDIX B

### (i) Sample Science Textbook Per Unit Cost for Epsilon’s Chosen Method of Print Production

**Epsilon’s Calculation of Production Costs for *Concepts in Science for GSAT: A New Approach***

Description	Unit cost \$JA	Textbook	Total \$JA
<b>Fixed Cost</b>			
Rent	60	x 1 textbook	60
<b>Total Fixed Cost</b>			<b>60</b>
<b>Variable Cost</b>			
Paper	0.60	x 372 pages	223.20
Toner	0.30	x 372 pages	111.6
Binding	45.00	x 1 textbook	45
Cover	75.00	x 1 textbook	75
Transportation	0.10	x 1 textbook	0.1
Utilities (electricity)	0.01	x 372 pages	3.72
Maintenance	0.10	x 372 pages	37.2
Other (including labour)	100	x1 textbook	100
<b>Total Variable Cost</b>			<b>595.82</b>
<b>Cost of Production</b>			<b>655.82</b>



**(ii) Sample Science Textbook per Unit Cost for Other Local Printing Production Option**

Quotation from Local Printing Option Epsilon Would Have Used For *Concepts in Science for GSAT: A New Approach*



141 EAST STREET, KINGSTON, JAMAICA, TEL: 876-922-3921-3, FAX: 876-922-9128

**PROFORMA INVOICE**

**SUZZETTE SMITH**

Date: JUL 07, 2014 10:49 AM

Terms: 50% DEPOSIT

MS. SMITH

Sales Rep: HOUSE

**ESTIMATE 2013 PRICE**

Ref No:	Description:	Quantity:	Cost:	TOTAL:			
NS7/14-77812	BOOKS - 8.5 X 11 - 372 PGS (1/1) + COV (4/0) + P/BOUND	2,500	1,776,148.00	2,069,212.42			
		Each: 710.46	GCT: 293,064.42				
Job:	Paper:	Size:	Pages	Col Frnt	Col Back:	Design:	Dies Etc:
PAGES	50 LB OFFSET - WHITE	8½ X 11	372	1	1		
COVER	10PT C1S(210GSM)	8½ X 11	1	4	0		

**2013 ESTIMATED PRICE**

Ref No:	Description:	Quantity:	Cost:	TOTAL:			
NS7/14-77810	BOOKS - 8.5 X 11 - 372 PGS (4/4) + COV (4/0) + P/BOUND	2,500	2,820,090.00	3,285,404.85			
		Each: 1,128.04	GCT: 465,314.85				
Job:	Paper:	Size:	Pages	Col Frnt	Col Back:	Design:	Dies Etc:
PAGES	50 LB OFFSET - WHITE	8½ X 11	372	4	4		
COVER	10PT C1S(210GSM)	8½ X 11	1	4	0		

Ref No:	Description:	Quantity:	Cost:	TOTAL:			
NS7/14-77806	BOOKS - 8.5 X 11 - 372 PGS (4/4) + COV (4/0) + P/BOUND	2,500	2,879,440.00	3,354,547.60			
		Each: 1,151.78	GCT: 475,107.60				
Job:	Paper:	Size:	Pages	Col Frnt	Col Back:	Design:	Dies Etc:
PAGES	50 LB OFFSET - WHITE	8½ X 11	372	4	4		
COVER	10PT C1S(210GSM)	8½ X 11	1	4	0		

Ref No:	Description:	Quantity:	Cost:	TOTAL:			
NS7/14-77755	BOOKS - 8.5 X 11 - 372 PGS (1/1) + COV (4/0) + P/BOUND	2,500	1,797,535.00	2,094,128.28			
		Each: 719.01	GCT: 296,593.28				
Job:	Paper:	Size:	Pages	Col Frnt	Col Back:	Design:	Dies Etc:
PAGES	50 LB OFFSET - WHITE	8½ X 11	372	1	1		
COVER	10PT C1S(210GSM)	8½ X 11	1	4	0		

ABOVE QUOTATION IS VALID FOR SEVEN (7) DAYS AND IS SUBJECT TO REVIEW BASED ON ANY DEVALUATION OF THE JAMAICAN DOLLAR THIS QUOTATION IS BASED ON YOUR REQUEST. A REVIEW MAY BE NECESSARY ON RECEIPT OF ACTUAL ARTWORK.

**NATHAN SHAKESPEARE**

### (iii) Sample Science Textbook per unit Cost for International Printing Production Option of Printing

Quotation from Chinese Printing Option Epsilon Would Have Used For *Concepts In Science For GSAT: A New Approach*



**PRINTING QUOTATION**  
 N. AMERICA: +1 372 892 5484  
 EUROPE: +44 (0)20 3288 5460  
 AUSTRALIA: +61 (0)3 9016 9250  
 HONG KONG: +852 2580  
 SHANGHAI: +86 21 5236

Company: Epsilon  
 Contact: Suzanne Smith  
 Telephone: 87 88262281  
 E-mail: [suzanne.veith@epsilon.com](mailto:suzanne.veith@epsilon.com)

Date: 07/06/14  
 Project Name: Soft Cover Book  
 Client Number: NA630  
 Project Number: EPS001  
 (all costs in US Dollars)

PRE-PRESS:		CTP—Digital Imposition and Digital Proofing						PRE-PRESS COST		
Preflight, Color Separation & Proofing		Includes pre-flight file check, routine modifications, color separation and Fed Ex delivery of proofs						Pre-press Cost: \$300.00		
PRODUCTION SPECIFICATIONS:		PAPER						PRINTING COST		
No of Pages	372pp + Cover (4pp)			Cover		Inside		Printing Unit cost: \$3.218		
Size	8.5" x 11" (Trimmed Size)	Colors	4c x 4c		1c x 1c					
Quantity	2,500	Paper Style	250gm Gloss Art Paper		80gm Woodfree Paper		Printing Cost: \$8,045.72			
Binding	Perfect Bound	Finish	1's UV Coated		None					
Other:	*As some paper stock for this job was either not specified or a non-standard weight for China we have recommended a suitable alternative									
SHIPPING DETAILS (APPROXIMATED)								SHIPPING COST (Est.)		
Packed in Double walled corrugated cartons, placed on pallets and shrink wrapped	Carton Dimensions (mm)	W	L	H	Number of Cartons	250	Container Size (in feet)	20	Delivery: CIF Kingston, Jamaica	
		240	300	180					Shipping Cost:	\$850.00
Units/Carton:	Carton Weight (kg)	11		Total Shipments Weight (kg)	2750	Approx. useable CBM/carton	22	2pcs Samples FedEx Fee:	\$50.00	
10	Carton Volume (CBM)	0.019		Total Shipments Volume (CBM)	3.24	No of Containers	0.15	Import Duty:	\$0.00	
OTHER NOTES:		Shipping cost is estimated until final volume and weight can be ascertained.						Total Cost per unit:	\$3.7163	
								Grand Total:	\$8,296	

**TERMS & CONDITIONS**

**Payment Terms:** Deposit: 50% Balance: 50% to factory (Upon approval of final production samples, prior to shipping)

**Turnaround Time:** Pre-production—5-7 days Printing—20-30 days Delivery—27-30 days TOTAL: 9-10 weeks

**Notes:**

- Prices quoted are valid for 30 days and subject to change according to market fluctuation in material and freight costs, as well as to Renminbi currency exchange fluctuation. Quotations not final until signed by both parties.
- Changes to specifications or client delays in providing required materials may result in subsequent alterations of price or schedule.
- CPS / NIE is responsible for providing required communication and proofs to client. Client is responsible for reviewing and approving such communication and proofs. All approvals are considered final.
- Client is responsible for providing accurate, error-free digital files or films and proofs. CPS / NIE will examine all materials before moving forward to double-check for any errors and make minor adjustments if necessary. However, CPS / NIE will not be held liable for design errors or resulting remake of films or plates. Major Design changes will be billed at a rate of 25 USD/hour (Upon prior notification and acceptance by Client), (unless otherwise agreed upon between CPS / NIE and client)
- Schedule provided are best estimates. Due to fluctuation in drying time and other factors, actual production time may vary slightly.
- Due to fluctuation in paper weight, shipping volume can not be precisely calculated until completion. In the customs arena, changes to tax code or other unpredictable events may result in additional shipping cost, exam fees, import duty or storage fees.
- CPS / NIE requires a copy of client's business registration certificate and a statement of authorization for reproduction of copyrighted material before commencement of production.

**PURCHASE AGREEMENT:**

The undersigned parties agree to proceed according to the project description detailed above, on

Signed on (date of signing) \_\_\_\_\_ Signed on (date of signing) \_\_\_\_\_

\_\_\_\_\_ for CPS / NIE \_\_\_\_\_ for Client

## APPENDIX C

### Tables

**Page Count & Total Number of Pages Per Title Produced to Fulfil Turning Pages' Orders**

<b>Title #</b>	<b>Textbook Title</b>	<b># of Pages</b>	<b># of Units</b>	<b>Total Page Count</b>
1	<i>Concepts in Language Arts for GSAT: Mastering Rudiments</i>	311	10	3110
2	<i>Concepts in Mathematics for GSAT: A Firm Foundation</i>	367	10	3670
3	<i>Concepts in Science for GSAT: A New Approach</i>	372	14	5208
4	<i>Concepts in Social Studies for GSAT: An Easier Approach</i>	392	14	5488
5	<i>Concepts in Language Arts for GSAT: Practice Tests</i>	117	4	468
6	<i>Concepts in Mathematics for GSAT: Practice Tests</i>	125	4	500
7	<i>Concepts in Science for GSAT: Practice Tests</i>	91	4	364
8	<i>Concepts in Social Studies for GSAT: Practice Tests</i>	116	4	464
9	<i>Easy Pass for GSAT Language Arts</i>	251	3	753
10	<i>Easy Pass for GSAT Mathematics</i>	247	3	741
11	<i>Easy Pass for GSAT Science</i>	250	3	750
12	<i>Easy Pass for GSAT Social Studies</i>	277	3	831
	<b>Final Total</b>			<b>22347</b>

APPENDIX D

**Table**

**Per-Unit Profit & Profit Margin on *Concepts in Science for GSAT: A New Approach* based on Production and Printing Options Epsilon Chose and Could Have Chosen**

	<b>Option 1</b>	<b>Option 2</b>	<b>Option 3</b>
<b>Description</b>	<b>Unconventional @ Epsilon</b>	<b>Local &amp; Traditional @ Phoenix Printery</b>	<b>International and traditional @ China Printing Solutions</b>
	\$	\$	\$
Revenues	2025	2025	2025
Less Cost of Goods	<b>655.82</b>	710.46	3.72 <sup>45</sup> *USD or 380 Jamaican Dollar
Net Profit before Taxes	1369.18	1314.54	1645.12
Less Taxes (25%)	342.3	328.64	411.25
Total Net Profit after taxes	1026.89	986.00	1233.87
<b>Net Profit margin ( net profit/revenue *100)</b>	<b>50.71%</b>	<b>48.70%</b>	<b>61%</b>

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<sup>45</sup> Converted at average exchange rate of USD\$102 to 1 Jamaican dollar for the July to September 2013 period. ([http://www.boj.org.jm/foreign\\_exchange/fx\\_rates\\_monthly.php](http://www.boj.org.jm/foreign_exchange/fx_rates_monthly.php) accessed June 24, 2015). Price includes shipping.

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