International Journal of Academic Accounting, Finance & Management Research (IJAAFMR)
ISSN: 2643-976X
Vol. 5 Issue 8, August - 2021, Pages: 32-46

Preferences of Drug Store Manager on Sales and Distribution Services of Pharmaceutical Companies in Cagayan De Oro City

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Abstract: *This study was conducted to determine the preferences of drugstores manager of sales and distribution of pharmaceutical company's services in Cagayan De Oro City. The relative significance of Pharmaceutical Distribution company's attributes to wit: Terms of Payments, Discounts, Sales Policy, Cost Effectiveness, and Credibility. These attributes were the contributing factors of the entire organization of distributorship business. The study made used of the descriptive and causal research methods. The descriptive method of research involves gathering information about the present existing condition (Morgan, 1997). This research designed was utilized to determine the effects of the five attributes, namely terms of payment, discounts, sales policy, cost effectiveness, and credibility, on the preferences of drugstore managers for sales and distribution services of pharmaceutical companies in Cagayan de Oro City. Using conjoint experiments, individual and aggregate models were determined as well as simulations was conducted to predict the market share of the designs and on existing pharmaceuticals distribution companies in Cagayan de Oro City. The Overall outcome revealed that drugstore managers are credibility-conscious as seen in the overall relative importance value of 43.696 percent. This is also manifested in the individual results for Managers 27, 42 and 64, who see credibility of a sales and distribution service for their pharmaceutical businesses as 46.398 percent, 34.699 percent and 52.048 percent important, respectively. The most preferable design of a sales and distribution service is one that is a known for its low cost of service, known for excellent credibility, implements a 30-days payment term and 5% discount, and focuses on a sales policy centered on severity. The market simulation revealed that between Rank 1 design, Rank 16 design, and two existing sales and distribution services in Cagayan de Oro City, the drugstore managers tend to choose the design of an existing company (Company XZY) with the following attributes: Cost-Effectiveness (High) + Credibility (Excellent) + Collection Policy (COD) + Discount (10%) + Sales Policy (Resilience).Lastly, null hypothesis stating no significant difference on the preference for a sales and distribution service of pharmaceutical companies was rejected on a single attribute level of sales policy (resilience) as well as on a single attribute level of cost-effectiveness (moderate) but failed to be rejected for the rest of the attribute levels.*

Keywords— Drug store manager preferences, Sales and Distribution Services, Sales Policy, Cost effectiveness and credibility

1. INTRODUCTION

Diabetes Health influences many aspects of our lives including the ability to perform daily functions and work productively. The relationship between health and productivity related more broadly to overall economy. Most importantly, we think of health in terms of its innate value to us, our family and friends, and to society. Healthcare providers are focused on medical treatment and patient satisfaction and access to medicines and care accurately and timely and ensure value of medicines to maintain or improve human life function. Hence, technically, medicine gives enormous value of medicine to life. Therefore, in business realm highlighting the value of medicine in treatment diseases signifies high level of market demand and business opportunities therefore several business channels like traders, wholesalers, distributors and drugstores retailers were organized to respond to the lucrative opportunities of this industry.

There are many factors to be considered in running Drugstores to be successful and profitable. One of major considerations is being able to manage internal and external operations of the organization and to partner with sustainable and efficient supplier which is Pharmaceutical Products Distributor. According to Caleb (2017), there are around 67,000 pharmacies in the United States. According to the research, nearly half of them (33,000) are housed in a variety of different facilities. The remaining pharmacies are either independently owned and operated enterprises or privately held businesses. In part as a result of an insecure supply chain, the number of community pharmacies increased by 6.3 percent across the country in 2012. However, the number of independent drugstores that have closed has climbed by more than 20%, which is a concerning trend.

Poquette (2014) explains two major factors that are the most significant profitability problems that pharmacies facing today.

First smaller margins mean that it will take more prescriptions this year to make the same amount of money you made last year. Second, Cash flow, any independent pharmacy owners open their pharmacy doors without considering the impact of cash flow on their business. Since most of their prescription business will be billed through insurance, they will be stuck waiting 30, 60 or even more than 90 days to get payment for their product and services.

According to Le Bon (2017), The independent pharmacy landscape is ripe for company expansion. In spite of this, he noted, there are around 20,000 independent pharmacies nationally, and each year 700-900 close or sell their doors due to complex reasons affecting internal and external business operations. Meanwhile, Robles (2013) reported that as far as the Philippine Pharmacists Association (PPA) has documented, the total number of Drugstores in the Philippines is increasing it reaches to more than 20,000 as of year 20132015. That includes unlicensed pharmacies. In a regional state, the Northern Mindanao Census Population Report (2015) reports that Cagayan de Oro City has a population of 675,950 prospected consumer of drugstores products, there are 234 drugstore retailers 124 local or individual drugstores and tremendously increases to almost 12% annually but in the other hand closure of drugstores in this area likewise significantly posted to 6% annually. Some factors affect drugstores operational decline was noted and the idea was established that suppliers play important role in this business.

There were limited number of suppliers locally and these are the third-party companies partnered to the pharmaceutical organizations operating in Cagayan de Oro City catering sales and distribution services towards the individual drugstore and retailer. Nevertheless, they are offering premium cost of products and services reasoned that some of the retailers in the area are challenged to sustain. Ideally drugstores retailers must be competitive in terms of productivity to national drugstores chain in the city like Mercury Drug Corporation, the acceptable efficiency must be almost equal or tantamount sales performance annually. To address some issues and concerns encountered by drugstores retailers the researcher intended and revisited operational process and supply chain management specifically in selecting efficient seller. These suppliers are pharmaceuticals distributor. To those who wanted this kind of venture in the future must know the preferences of the sales and services of drugstore decision maker so that they can structure better design and operational system.

This study was conducted to determine the preferences of drugstore managers for a sales and distribution services of the pharmaceutical companies in Cagayan de Oro City. Primarily, this study sought to address subsequent questions.

1. What is the profile of the drugstore managers in terms of:
   a.) Age;
   b.) Sex;
   c.) Marital Status;
   d.) Educational Attainment; and
   e.) Professional Alignment?
2. What is the relative importance of the following attributes in determining preferences for a sales and distribution service in Cagayan de Oro City in terms of:
   a.) Terms of Payment;
   b.) Discount;
   c.) Sales Policy;
   d.) Cost Effectiveness;
   e.) Credibility?
3. What are the individual and aggregate models of drugstores managers' preference for a sales and distribution service in Cagayan de Oro City?

4.) What are the predicted market shares of the choice of the Drugstore Managers between:

   a.) Rank 1 Design and Rank 16 Design; and
   b.) Existing pharmaceutical distributors in Cagayan de Oro City?

5.) Is there any significant difference on the attributes of a sales and distribution service of pharmaceutical companies when analyzed according to drugstore managers' profile?

Objectives of the Study

The rationale of this study is to respond to the needs to resolve issues and concerns that govern finest design of sales and distribution services system base to a combination of designs using Conjoint Analysis. Therefore, it recognizes appropriate business attributes of sales and distributions services of the distributor base on the perception of the drugstore manager, namely: terms of payments, discounts, sales policy, cost effectiveness, credibility in launching best design base on the preferences of the drugstore manager in the territory.

This study recommended comprehensive profile of respondent as samples of individual and aggregate model are also simulated, this also conducted models to predict market shares of design combinations and affirm if said profiles could be used for segmentation tailored fit to the customer preferences. Further tests of difference were also made in order to check the variance of preferences among demographic characteristics as an avenue for market segmentation.

Pharmacy or Drugstores are the major point of sales of local masses in Cagayan de Oro City , this is the avenue of buying the affordable and quality medicine, thus accessibility and

availability is very important, however due to some various factors of major distribution companies that affects profitability of drugstores operation the desired goal was commonly not achieved, In this study the collective preference of the drugstore manager contributed a big impact for the distributors in remodeling or redesigning services
offered for the following;

Pharmaceutical Distributor Companies. This thesis was conducted to give clear-cut initiative to the owner of the company to reassess and evaluate existing services and process, enhance, redesign and adopt creative innovation to promote competitiveness in the arena of business competition.

Drugstores. This paper was conducted to stretch knowledge toward drugstores manager to gauge offered products and services of the suppliers in aid of realizing organizational goal.
Academe. This research intended to contribute knowledge in reaching university's mission of providing extensive learning with in depth analysis of industry scenario and theoretical approach.

Researcher. This study provided the researcher supplementary facts and information adapting the effective and efficient process using the conjoint analysis to respond the uncovered preferences and needs of the drugstores and pharmacy. The methodology plead in this study would be of big help in the future decision making of company's planning, restructuring of organizational operation, marketing, and product development as well in the future.

Future Researcher. This study complemented actualities and substantial knowledge to the future researcher to have indepth data analysis with respect to the result as stated in this study in line with pharmaceutical industry.

Scope of the Research Investigation

The study determined the attributes preferred by drugstore manager in selecting sales and distribution companies in Cagayan De Oro City. The attributes are the results of the survey conducted to key informants. The attributes and levels are limited to terms of payments, discounts, sales policy, cost effectiveness, and credibility. The study also used the preferences of respondents as samples to evaluate the difference on their individual models' base on their most and least preferred attributes. Respondents of the study are the drugstores managers as decision makers in Cagayan De Oro City who are selected based on the industry and universal parameters and criteria which are the following: FDA issued License to Operate (LTO), Business Permit, Business Volume, BIR TIN, Credit Limits of the Current Suppliers, and the existing companies that offered sales and distribution services in the territory that are included in profiling are the following: Metro Drug Inc., Be Well Company, MedHaus Pharma Inc., In determining the market share, the Companies in Cagayan De Oro City were placed in concealment. The study employed conjoint analysis in determining the preferences of drugstore managers as they will patronize the services of the sales distribution company in Cagayan De Oro City. Further tests of difference were employed to establish demographic analysis of market segmentation.

Literature Review and Theory

Many local pharmaceutical distribution organizations anchored the business operation to their vision and mission statements. These focus on generating revenue to maximize profitability, sustainability, and stability. However, to achieve these objectives, several dynamics need utmost considerations. The business organization must revisit several factors affecting desired out-put like products portfolio, marketing strategies, customer profile, sales and distribution services and product availability. To achieve its goal, the distributor must address these major concerns. And consider high level of efficiency in sales and distribution services existing to customer which are drugstore retailers.

Yadav and Smith (2012) defined the drug distribution chain in developed countries; in the United States, the majority of patients obtain medication from their doctor's office or a licensed dispensary; approximately three-quarters of all prescription medicines are purchased in drug stores; approximately half of all pharmaceutical products are purchased in large retailers or food stores with an institutional drugstore or pharmacy.

Jefferey (2007) cited in his study actual interview to a pharmaceutical company manager on Kolkata India. The result concluded that many companies tend to tie-up directly to manufacturers specially when operating in big chain of drugstores nationwide for example 450 branches, these group of companies do not do the purchasing to distributor necessarily. They will position themselves as the distributor and buy from the manufacturer and get the whole sales margin they buy it at that process but sell it at the consumer rate, so once the margin goes up they can afford to better services and added benefits to the patients and customer, so absolutely cutting out the middle man. It gives emphasis that the direct central purchase contributes greater possibility for the big retailers to control the margin and availability of products in India.

ABC Pharmaceuticals Inc. Annual Sales Report (2013) in Northern Mindanao shown that over 10 marketed pharmaceutical products in the market the revenue generated

was Php9.8M from directly company distributed sales to Mercury Drugstores versus Php4.6M generated revenue of the outsourced sales and distribution partner, these figures revealed that the directly delivered revenue to Mercury Drugstores contributed 67% of the total sales while the captured sales from outsource distribution partner subsidized 32% its clear to note that directly managed sales of company generated output is desirable that than of the partnered sales and distribution produced sales. The ideal performance in the territory to at least 50% from the directly served mercury sales and 50% trade sales (local drugstores) created by partnered sales and distribution company, this numbers as reported annual sales has an implication that there is a big gap of sales from both channels specifically the issues and concerns is in trade contributed sales of partnered company. The data show of high-level needs of every distributor to create, expand and enhance sales and distribution services for drugstores retailers for regular productive operation.

Attributes of Sales and Distribution Services of Pharmaceutical Companies

There are eight (8) attributes that are identified in this study: cost effectiveness, term of payment, discount, agility, credibility, sales policy, customer service and sales representative frequency. Cost Effectiveness. The relationship between monetary inputs and the desired outcome and effect such as the cost or price of products and services offered to the pharmacy and drugstore.

Sullivan (2004) said that an increasing number of nations are emphasizing cost effectiveness when making judgments regarding which medications to make available for prescriptions in their respective countries. Manufacturers of new medications cannot obtain a product license until they demonstrate its quality, safety, and efficacy. However, relative cost efficiency is regarded the most essential criterion for patient benefit in both research-based or off-patent compounds and "me too brands."

Perce (2002) went on to say that when prescribing for patients who must pay the entire "out-of-pocket" cost, physicians are likewise more price sensitive than when prescribing for others. In certain cases, like cancer products in the US or many conventional prescription drugs in Japan, doctors buy and deliver therapy to patients. Doctors are typically worried about the disparity between the product's price and the reimbursement rate.

Rankin (2015), on the other hand, believes that if a patient has an acute disease that requires care for a limited period of time, doctors are less worried with pricing. Even for chronic illnesses, if the doctor has tried multiple drugs and had issues with tolerance or effectiveness, he is significantly more likely to overlook pricing when deciding on the next course of treatment. Additionally, the cost efficiency of medicine is critical in any patient or customer disease, whether chronic or acute. The patient's ability to acquire medicine from a pharmacy should be taken into serious account, particularly in the Philippines.

Terms of Payment. Is the circumstances under which the distributor offers to complete the sales; generally, this phrase refers to the pay period granted to pharmacies and pharmacies for recovery. According to Lohrey (2014), accounts receivable payments are a significant contributor to the company's liquidity, cash flows, and operating expenses. Ontime payment keeps the business cycle circulating and allows a business to meet operational commitments, which is why payment terms must be managed properly for a smooth operational process.

Zuellig Pharmaceuticals Corporation (2012) cited in its published article “Challenges in the Pharmaceutical Distribution Business in the Philippines” (p.128) towards the retail drugstores, , pharmacies, hospitals clinics, doctors and patients, stated that the major concerns are stocking in pharmacies and retailers, this issue is very complex that needs more assessment and evaluation many factors to be considered to evidently identify reasons of consistent purchasing and ordering of the drugstores as well as doctors. It also responds to the materials and facility like maintenance of cold chain refrigerators, air-conditions requirement of the products where issues of medications, safety and efficacy, supply, and quality as well as pricing must be managed by the outsourced distribution companies.

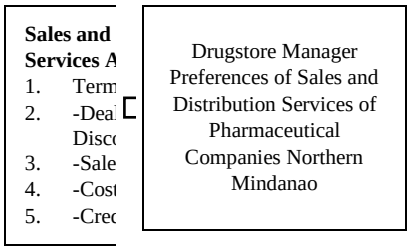

Figure 1. Conceptual Framework design of the study

Research Hypotheses

The following are the hypotheses of the study:

1. The five attributes, namely terms of payment, discounts, sales policy, cost effectiveness, and credibility, are all important to determine the best design of sales and distribution services of pharmaceuticals in Cagayan de Oro City.

2. There are predicted market shares of the choice of the drugstore manager between aggregate model, rank 1 design and rank 21 designs; and between existing sales and distribution companies in Cagayan de Oro City.

3. There are significant differences in the preferences of the drugstores managers for sales and distribution services of pharmaceuticals distributor in Cagayan de Oro City when grouped according to profile.

II. Material And Methods

This study made used of the descriptive and causal research methods. The descriptive method of research involves gathering information about the present existing condition (Morgan, 1997). Meanwhile, Causal research method used to establish cause-and-effect relationships between variables by conducting experiments. The goal is to validate the assumptions that are made in order to explain the current condition. Furthermore, because this method provides for a flexible approach, if significant new difficulties or questions develop during the course of the study, additional research may be carried out to address those concerns or questions (Chakrapani, 2004).

This research designed was utilized to determine the effects of the five attributes, namely terms of payment, discounts, sales policy, cost effectiveness, and credibility, on the preferences of drugstore managers for sales and distribution services of pharmaceutical companies in Cagayan de Oro City. Using conjoint experiments, individual and aggregate models were determined as well as simulations was conducted to predict the market share of the designs and on existing pharmaceuticals distribution companies in Cagayan de Oro City.

Sources of Data

The primary sources of data were from the responses of the Drugstore in Cagayan De Oro City the list of the said companies excerpt from the current operational master list of ABC Pharmaceuticals Inc., using important parameters such as; Completion of Legal Documents with FDA issued License to Operate (LTO), BIR TIN and Business Volume, Business Credit Limit to Current Supplier.

According to Johnson (2015), the best-practice guideline for stated-preference techniques is that there is a limit on the number of qualities that respondents can accurately assess in a given time period. A cost-effective method to combine several elicitation formats from a single research is investigated in this work in order to gather more preference information from a given sample while minimizing respondents' cognitive load. Executing these principles, there are eight (8) attributes are identified which generated 6,561 combinations using factorial design (3x3x3x3x3x3x3x3). To manifest the guidelines the initially created questionnaire was distributed to the thirty (30) drugstore managers in Davao City to select the five most preferred attributes from the list of eight (cost effectiveness, terms of payment, discount, agility, credibility, sales policy, customer service and sales representative frequency) attributes. The respondents are likely to be the customers of the pharmaceutical's distribution companies in Cagayan de Oro City. The five most preferred attributes by key informants are terms of payment, discounts, sales policy, cost effectiveness, and credibility, which were the basis for the hypothetical designs of pharmaceutical distribution companies in Cagayan De Oro City.

Data Gathering Instrument

Self-administered questionnaires (Appendix A) were distributed to the thirty (30) drugstore managers from Davao City to select the five out of eight attributes for the study. The five attributes were used to generate the conjoint questionnaire answered by the drugstore managers from Cagayan de Oro City (Appendix B).

The survey questionnaire consists of two parts. Part 1 contains the information regarding the profile of the respondents in terms of age, sex, marital status, educational attainment and professional alignment. Part 2 contains the twenty-one (21) hypothetical designs consisting of the combinations of attributes and levels. They were validated first by experts before administered to the respondents.

Sampling Technique

The researcher had designed to cover all active master listed accounts or drugstores of ABC Pharmaceuticals Inc. as respondents this list of accounts were measured using different parameters of the ABC Pharmaceuticals Company in enrolling accounts as customer. A total of 100 respondents from Cagayan De Oro City, these respondents passed the government parameters of full registration acquired and complied to wit: license-to-operate from Food and Drug Administration, business permits, and current supplier credit limits.

Procedure of the Study

The researcher conducted the study from February to May of 2018. With the help of his adviser, the study was materialized following the seven (7) stages of Hair et al. (2006) in designing a conjoint experiment.

Stage 1: Research Problem. Statement of the problem 2 and 3 are formulated to provide an answer to the objectives that

require the determination of the relative importance and contribution of each attribute namely Terms of Payment, Discounts, Sales Policy, Cost Effectiveness, Credibility, in establishing the best design base on the preference of drugstore managers.

Stage 2: Creating a Conjoint Methodology. The traditional conjoint analysis was employed in this study as it utilized using the five (5) attributes, additive model in determining the total utility and the non-metric full profile presentation of data to respondents. The conjoint methodology was maximized as follows:

Designing the Stimuli (Selecting and Defining Attributes and Levels). Based on the literatures, eight attributes were initially identified namely: Cost Effectiveness, Term of Payment, Discount, Agility, Credibility, Sales Policy, Customer Service and Sales Representative Frequency. A questionnaire survey was conducted to the Drugstore Managers in Davao City as key informants to select the five (5) most important attributes (Appendix A). After identifying the attributes namely: Terms of Payment, Discounts, Sales Policy, Cost Effectiveness, and Credibility, the levels were identified to represent an attribute.

Designing the Stimuli (Specifying the Basic Model Form). The additive model was utilized to determine the numerical value of the individual and aggregate utilities. (Total Utility of a Pharmaceutical Distribution Company) i to m= utility level i for Terms of Payment + utility level j for Discounts + utility level k for Sales Policy + utility level l for Cost Effectiveness + utility level m for Credibility.

Data Collection (Choosing a Presentation Method and Selecting a Preference Measure). The full-profile method in presenting twenty-one (21) hypothetical design combinations was used (Appendix B). The non-metric method was employed to determine the rank of each designs base on the preferences of drugstore managers for sales and distribution services of pharmaceutical companies in Cagayan De Oro City (Appendix B).

Data Collection (Creating the Stimuli). Using factorial design with five attributes and three levels for the four attributes and two on one of the attributes resulted to a total of 243 (3x3x3x3x3) design combinations. This is too many for a respondent to evaluate. To address the problem, a fractional factorial design is to employ with the help of statistical software to generate the information needed for conjoint analysis. Orthogonal designs were generated by statistical software, According to Hair et al. (2006), some reductions in profiles are possible using specialize conjoint designs by eliminating profiles in the orthogonal design and presenting respondents with only believable designs.

Data Collection (Form of Survey Administration). Approval letters (Appendix B) sent to Drugstores asked permission to conduct the survey. Upon approval of the letter, the survey was conducted. A survey questionnaire with attached consent letter sent to the respondents.

Stage 3: Assumptions. The basic assumptions used in this study are 1) A Pharmaceuticals Distribution Companies that possessed significant attributes such as Terms of Payment, Discounts, Sales Policy, Cost Effectiveness, Credibility, 2) The features of a Sales and Services of Pharmaceuticals Distribution Companies were the levels representing an attribute; and the attributes were important in determining the preferences of drugstore managers for the sales and distribution services of Distributor of Pharmaceuticals Companies in Northern Mindanao.

Stage 4: Estimating the Conjoint Model and Assessing Overall Fit. The estimation technique of this study will use the nonmetric method because respondents were ranked the designs. In assessing the goodness-of-fit using the nonmetric rank-order data, the Spearman's rho and Kendall's tau were utilized.

Stage 5: Interpreting the Results. The data was collected from the 100 respondents and to be tabulated and analyzed completely. The profiles, relative importance ratings and individual and aggregate models were determined using the data of 100 respondents. The profiles were analyzed according to their representations and test for difference. The relative importance ratings were used to determine the importance of the attributes in contributing to the preference of drugstore managers of sales and distribution services of pharmaceutical companies in North Min. The utilities were used to determine the models of the drugstore managers at individual and aggregate level.

Stage 6: Validation of the Conjoint Results. According to Grover and Vriens (2006), two model validation methods often are used to evaluate the quality of a conjoint model. One method is known as holdout validation and two is predicting the market shares.

Stage 7: Managerial Application of Conjoint Analysis. Conjoint can help identify customers' needs, prioritize those needs and then translates those needs into actual strategies (Hair et al, 2006).

Choice Simulator. Market simulations were conducted in this study to predict the market shares of the choice of drugstore managers between the aggregate model, rank 1 design and rank 16 designs and between existing Distribution Companies in Cagayan De Oro City. The market shares were determined using the Maximum Utility model, Bradley–Terry–Luce model and Logit model that was generated by the statistical software.

To determine the rank 1 and rank 16 designs, the researcher was conducted a pre-simulation on all the (16) designs to know the preference scores of the main respondents on each of the designs. The design that will get the highest preference score was considered rank 1 and the least preferred design will be considered rank 16.

Statistical Treatment

Descriptive statistics (frequency and percentage) were used for the profile of the respondents according to age, sex, marital status, educational attainment and professional alignment. Conjoint analysis was used to determine the relative importance of the five chosen attributes and determine the total utility of a pharmaceutical distribution companies as well as determine the sample individual and aggregate models of drugstore managers. Simulations were conducted in determining the predicted market shares of the choice of Drugstore Managers between aggregate model, rank 1 design and rank 16 designs and between existing Pharmaceutical Distribution Companies in Cagayan De Oro City. The test of assumption was employed on the profiles of the main respondents in terms of to age, sex, and marital status; educational attainment and professional alignment before conducting the test of difference using tests of difference (one-way analysis of variance and t-test for independent samples).

III. Result

The results based in the data gathered from the respondents which include: (1) the profile of the drugstore managers; (2) the relative importance of identified attributes in determining the total utility of a sales and distribution service of a pharmaceutical company; (3) the individual and aggregate utility models of drugstore managers' preferences for a sales and distribution service of a pharmaceutical company; and (4) predicted market shares based on simulations conducted between Rank 1 design and Rank 10 design and existing sales and distribution services in Cagayan de Oro City.

Relative Importance of Attributes of Sales and Distribution Service of Pharmaceutical Businesses in Cagayan de Oro City

The relative importance of the five determining attributes of a sales and distribution service as preferred by of drugstore managers in Cagayan de Oro City is shown in Table 3. Importance measures are relative and within the study. If the range of the attribute levels that are tested changes, the relative importance of that attribute is also likely to change.

Attributes	Relative Importance	Attributes' Value Level	Marginal Utility	Standard Error
Cost Effectiveness	20.608%	high	1.971	1.791
		moderate	-0.212	1.436
		low	-1.760	1.634
Collection Policy	11.259%	COD	-0.079	1.262
		30 days	1.014	1.709
		60 days	-0.934	1.587
Sales Policy	16.962%	firmness	-0.909	1.587
		resilience	-0.978	1.262
		severity	1.887	1.709
Credibility	43.696%	excellent	3.642	1.538
		satisfactory	0.490	1.471
		poor	-4.132	1.262
Deals and Discounts	7.475%	5%	-0.636	1.262
		10%	0.662	1.538
		15%	-0.026	1.471
(Constant)			10.163	1.141

Table 1. Relative Importance of Residential Attribute Profiles

Based on the relative importance summary, credibility is the most important attribute in influencing drugstore managers' preference, which is 43.696 percent important in selecting for a sales and distribution service. Looking at its attribute levels, the overall drugstore managers included in sample generally prefers a sales and distribution service with excellent credibility (3.642), which is preferable than those who are known only for satisfactory (0.490) credibility. They, on the other hand, tend to have aversion from providers that are known to be of poor credibility being indicated by a negative coefficient of the marginal utility (-4.132). Coming second most important is cost-effectiveness (20.608 percent), by which drugstore managers prefer transacting with sales and distribution services and getting high level of cost-effectiveness (1.971). On the other hand, those services having moderate (-0.212) and low (-1.760) tend to be less preferred based on the negative coefficient of their respective marginal utilities.

On the other hand, sales policy and collection policy come third (16.962 percent) and fourth (11.259 percent), respectively, in terms of relative importance. Overall, drugstore managers prefer sales and distribution service that give them 30 days as term for payment collections (1.014) but surprisingly, they do not prefer being given 60 days to pay in getting their services (-0.934). In addition, drugstore managers choose sales and distribution services that focuses on severity (1.887) as a sales policy than resilience (-0.978) and firmness (-0.909). Deals and discounts is the least important attribute among the other five attributes (7.475 percent). Overall, a discount of 10 percent (0.662) is preferable rather than 5 percent (-0.636).

Based on the part-worth utility concept, the total utility for the plan cards can be determined from combinations of partworth utilities. This can be done by adding the marginal utility value of the attribute level combinations of each attribute plus the value of the constant derived in the conjoint estimation. The value of the constant was found to be 10.486. The preference model estimated can be used to calculate the total utility for the eighteen alternative product profiles

ID	Constant	Cost Efficiency	Credibility	Terms	Discounts	Sales Policy	Total Utility	Rank
20	10.163	1.971	3.642	-0.08	0.662	-0.978	15.381	1
11	10.163	-1.76	3.642	1.014	-0.636	1.887	14.310	2
6	10.163	-0.212	3.642	-0.08	-0.026	-0.978	12.510	3
8	10.163	-0.212	0.49	-0.08	-0.636	1.887	11.613	4
2	10.163	1.971	0.49	-0.08	-0.636	-0.909	11.000	5
3	10.163	-1.76	3.642	-0.93	-0.636	-0.909	9.566	6
14	10.163	1.971	-4.132	-0.93	-0.026	1.887	8.929	7
12	10.163	-1.76	0.49	1.014	-0.026	-0.978	8.903	8
9	10.163	-1.76	0.49	-0.93	0.662	-0.978	7.643	9
13	10.163	1.971	-4.132	1.014	-0.636	-0.978	7.402	10
18	10.163	-1.76	-4.132	-0.08	0.662	1.887	6.741	11
10	10.163	-0.212	-4.132	1.014	0.662	-0.909	6.586	12
17	10.163	-0.212	-4.132	-0.93	-0.636	-0.978	3.271	13
19	10.163	-1.76	-4.132	-0.08	-0.026	-0.909	3.257	14
5	10.163	-1.76	-4.132	-0.08	-0.636	-0.978	2.578	15
15	10.163	-1.76	-4.132	-0.08	-0.636	-0.978	2.578	16

Table 2 Rankings of Plancard Designs Based on Additive Model

Based on the results in Table 2, the most preferable design of a sales and distribution service among the 16 plancards is Card ID 20, which is a sales and distribution service known for its low cost of service, known for excellent credibility, implements a 30-days payment term and 5% discount, and focuses on a sales policy centered on severity, having an overall utility 15.381, calculated by adding the constant value and the equivalent utility estimates of the attribute levels in the said design. On the other hand, the least-preferred design is Card ID 15, which is a sales and distribution service known for its moderate cost of service yet poor credibility, implements a 30-day payment term, gives 10% discount, and has a sales policy focused on firmness.

Individual and Aggregate Models of Sales and Distribution Service of Pharmaceutical Businesses in Cagayan de Oro City

The focus of modelling individual and aggregate preferences is to check whether individual preference behavior matches with the overall behavior of the entire market. This is one way of checking which attributes and attribute levels are preferable from one respondent with the other and vice-versa. In this analysis, three random drugstore managers were chosen and have their utility estimates compared with the overall behavior of the entire 100 drugstore managers in Cagayan de Oro City. Moreover, measures of fit for conjoint analysis between actual designs and holdouts are also displayed individually and compared to the overall statistic.

Table 3. Individual Models and Aggregate Model of Preference of Drugstore Managers for a Sales and Distribution Service of Pharmaceutical Companies

Attributes' Value Level	Individual Models			Aggregate Model
	Manager 27	Manager 42	Manager 64	
(Constant)	10.270	10.304	9.985	10.163
high	**1.770**	**2.512**	**2.152**	**1.971**
moderate	-0.186	-0.054	-1.069	-0.212
low	-1.583	-2.458	-1.083	-1.760
COD	0.054	-0.081	0.397	-0.079
30 days	**0.811**	**1.533**	**0.610**	**1.014**
60 days	-0.865	-1.452	-1.007	-0.934
firmness	-0.615	-1.077	-0.591	-0.909
resilience	-0.946	-1.581	-0.936	-0.978
severity	**1.561**	**2.658**	**1.527**	**1.887**
excellent	**4.066**	**2.797**	**3.961**	**3.642**
satisfactory	0.154	1.289	0.770	0.490
poor	-4.221	-4.086	-4.730	-4.132
5%	-1.221	-0.252	-0.397	-0.636
10%	**0.816**	**0.505**	**0.294**	**0.662**
15%	0.404	-0.252	0.103	-0.026
Importance Values				
Cost-Effectiveness	18.773	25.060	19.375	20.608
Collection Policy	9.387	15.051	9.687	11.259
Sales Policy	14.039	21.372	14.751	16.962
Credibility	***46.398***	***34.699***	***52.048***	***43.696***
Deals and Discounts	11.404	3.818	4.139	7.475
Pearson r	0.895*	0.877*	0.926*	0.886*
Kendall's tau	0.733*	0.683*	0.767*	0.683*
Kendall's tau for holdouts	0.600^{ns}	0.000^{ns}	0.600^{ns}	0.400^{ns}

Based on the analysis in table 5, the aggregate model that represents the behavior of all drugstore managers in Cagayan de Oro City is a sales and distribution service which is quite known for high cost, implements a 30-day payment term/collection policy, focuses on severity as sales policy, known for excellent credibility, and gives 10% discount. Individually, the results are manifested in the individual utility estimates for Managers 27, 42 and 64.

Overall, all drugstore managers are credibility-conscious as seen in the overall relative importance value of 43.696 percent. This is also manifested in the individual results for Managers 27, 42 and 64, who see credibility of a sales and distribution service for their pharmaceutical businesses as 46.398 percent, 34.699 percent and 52.048 percent important, respectively

Predicted Market Shares of the Choice of the Drugstore Managers between Most- and Least-Preferred Design and Existing Sales and Distribution Services of Pharmaceutical Companies in Cagayan de Oro City

The power of conjoint analysis also lies in doing market segmentation, where existing survey scores are utilized to simulate possible decisions of drugstore managers in choosing for a sales and distribution service for their pharmaceutical companies.

Market simulation involves getting the maximum utility of each of the simulated designs. In this case, two simulations are warranted – simulation involving Ranks 1 and 16 designs and simulation which includes Ranks 1 and 16 as well as two designs from existing companies (Company ABC and Company XYZ).

For the first simulation displayed in Table 6, Card ID 20 (most-preferred design and will be labeled in the simulation as a new card 22) and Card ID 15 (least-preferred design and will be labeled in the simulation as a new card 23) were investigated as to which among them will be preferred by drugstore managers.

Obviously, 100% of the drugstore managers tend to choose Card ID 22 (14.310) rather than selecting Card ID 23 (6.585). In addition, the BTL model revealed that Card ID 22 is 68.8 percent preferable while the logit model indicate 99.2 percent preferable than Card ID 23.

ID	Preference Score	Maximum Utility	Bradley - TerryLuce	Logit
22	14.310	100.0%	68.8%	99.2%
23	6.585	0.0%	31.2%	0.8%

Table 4. Preference probabilities of simulations between all plancards and most- and least-preferred designs of sales and distribution service providers

For the second simulation displayed in Table 7, Ranks 1 and 16 designs were simulated together with two new designs: Company ABC (Card 24 - Cost-Effectiveness (Low) + Credibility (Excellent) + Collection Policy (30 days) + Discount (10%) + Sales Policy (Resilience)) and Company XYZ (Card 25 - Cost-Effectiveness (High) + Credibility (Excellent) + Collection Policy (COD) + Discount (10%) + Sales Policy (Resilience)). Results revealed that Card ID 24 has a preference score of 12. 743 while Card 25 has higher (15.381). Cards 22 and 23 have the same preference scores based on the first simulation.

Having the four simulated designs, it was found out that 78 percent of the drugstore managers would prefer choosing Card ID 25 while the rest of the 22 percent will tend to choose the Rank 1 design. BTL model revealed further that Card ID 25 is 31.4 percent preferable while the logit model revealed that 65 percent of the drugstore managers would choose the same design. The preference scores might be attributed to the high value of excellent credibility as an attribute of a sales and distribution service.

ID	Preference Score	Maximum Utility	Bradley - TerryLuce	Logit
22	14.310	22.0%	29.3%	27.1%
23	6.585	0.0%	13.4%	0.1%
24	12.743	0.0%	26.0%	7.9%
25	15.381	78.0%	31.4%	65.0%

Table 5. Preference probabilities of simulations between Rank 1 (Card 22) and Rank 16 (Card 23) when compared to existing sales and distribution service providers in Cagayan de Oro City (Card 24 and 25)

Note:Card 24 – Cost-Effectiveness (Low) + Credibility (Excellent) + Collection Policy (30 days) + Discount (10%) + Sales Policy (Resilience) Card 25 – Cost-Effectiveness (High) + Credibility (Excellent) + Collection Policy (COD) +
Discount (10%) + Sales Policy (Resilience)

Significant Difference on the Attributes of a Sales and Distribution Service of Pharmaceutical Companies When Analyzed According to Drugstore Managers' Profile

Finally, several tests of difference using one-way analysis of variance and t-test for independent samples were utilized

to determine whether the preference as determined by utility scores of the attributes of a sales and distribution service of pharmaceutical companies significantly vary when taking the profile of the drugstore managers as consideration. This is to establish the possible market segmentation due to the differences of the preference scores and can be an avenue for market-sensitive strategies by service providers.

In terms of age group, only resilience as an attribute level of sales policy was found to have significant difference, with an F-value of 3.396.

Table 6. ANOVA results for the utility scores of the attributes when analyzed by age group having p less than 0.05

		Sum of Squares	df	Mean Square	F	Sig.
high	Between Groups	1.000	3	.333	.749	.525
	Within Groups	42.738	96	.445		
	Total	43.738	99			
moderate	Between Groups	1.916	3	.639	2.490	.065
	Within Groups	24.614	96	.256		
	Total	26.530	99			
low	Between Groups	1.154	3	.385	1.184	.320
	Within Groups	31.177	96	.325		
	Total	32.331	99			
COD	Between Groups	.695	3	.232	1.132	.340
	Within Groups	19.633	96	.205		
	Total	20.328	99			
30 days	Between Groups	.358	3	.119	.821	.485
	Within Groups	13.942	96	.145		
	Total	14.300	99			
60 days	Between Groups	.090	3	.030	.219	.883
	Within Groups	13.090	96	.136		
	Total	13.180	99			
firmness	Between Groups	.617	3	.206	.711	.548
	Within Groups	27.763	96	.289		
	Total	28.380	99			
resilience	**Between Groups**	**.970**	**3**	**.323**	**3.396**	**.021***
	Within Groups	**9.140**	**96**	**.095**		
	Total	**10.110**	**99**			
severity	Between Groups	.194	3	.065	.248	.862
	Within Groups	25.056	96	.261		
	Total	25.251	99			
excellent	Between Groups	.328	3	.109	.456	.714
	Within Groups	23.059	96	.240		
	Total	23.387	99			
satisfactory	Between Groups	.297	3	.099	.184	.907
	Within Groups	51.553	96	.537		
	Total	51.850	99			
poor	Between Groups	.538	3	.179	.945	.422
	Within Groups	18.197	96	.190		
	Total	18.734	99			
5%	Between Groups	.370	3	.123	.985	.403
	Within Groups	12.020	96	.125		
	Total	12.391	99			
10%	Between Groups	.185	3	.062	1.130	.341
	Within Groups	5.231	96	.054		
	Total	5.415	99			
15%	Between Groups	.364	3	.121	1.966	.124
	Within Groups	5.922	96	.062		
	Total	6.285	99			

Table 6. revealed that as far as age group is concerned, those drugstore managers in the younger bracket (mean value of 0.5833) tend to appreciate resilience as sales policy more than the older ones: 41 to 50 (mean value of -1.4757), 51 to 60 (mean value of -1.4303), and above 60 (-1.5373). This could further mean that younger drugstore managers choose a sales and distribution service that is flexible and can be relied despite changes of details on delivery and distribution due to the patient and tolerant nature of their dispositions at that age compared to the less-tempered older counterparts.

However, no significant differences were found on the utility scores of the rest of the attribute levels for a sales and distribution service of pharmaceutical companies when analyzed by age group. This means that the way how drugstore managers see the rest of the attributes might not be very different; hence, they are in the same level or extent of preference as far as the choice of a sales and distribution service is concerned.

Similarly, based on the t-test results in table 9, no significant differences were found on the utility scores that indicate the preference for a sales and distribution service when analyzed according to drugstore managers' sex. This means that how male and female drugstore managers of pharmaceutical companies in Cagayan de Oro City prefer a sales and distribution service does not significantly differ as far as sex is concerned, and that their preferences do not really vary at this angle.

		Mean	SD	t-ratio	Sig.
high	Male	-2.1765	.63112	-.413	.681
	Female	-2.1063	.67540		
moderate	Male	-.4520	.51152	.774	.441
	Female	-.5543	.52032		
low	Male	2.6285	.64141	-.220	.827
	Female	2.6606	.55801		
COD	Male	.2105	.48062	-.225	.823
	Female	.2366	.44943		
30 days	Male	.0000	.34359	.950	.344
	Female	-.0921	.38801		

60 days	Male	-.2105	.37512	-.708	.481
	Female	-.1445	.36366		
firmness resilience	Male	.8958	.54881	.296	.768
	Female	.8552	.53541		
	Male	-1.5377	.35742	-1.143	.256
	Female	-1.4447	.30979		
severity	Male	.6419	.55772	.406	.686
	Female	.5894	.49509		
excellent	Male	5.2933	.57437	.102	.102
	Female	5.4962	.45847		
satisfactory	Male	-.8723	.77714	.344	.344
	Female	-1.0477	.71156		
poor	Male	-4.4211	.42079	.806	.806
	Female	-4.4486	.44068		
5%	Male	-.1115	.32872	.591	.591
	Female	-.1603	.36071		
10%	Male	.3235	.23235	.474	.474
	Female	.2806	.23493		
15%	Male	-.2121	.25737	.154	.154
	Female	-.1203	.24909		

Table 7. Independent-sample t-test results for the utility scores of the attributes when analyzed per sex

In terms of marital status, analysis in table 10 revealed that a moderate level of cost-effectiveness was found to be higher than single drugstore managers (0.1209) than married ones (0.5552)

Value of 2.274, having p less than 0.05. This means that as far as marital status is concerned, single drugstore managers tend to have higher preference to sales and distribution service that has a reputation for moderate cost-effectiveness compared to married drugstore managers. This preference could be attributed to possible risks where married couples tend to select service providers that they have trusted for quite some time, unlike those single ones who might have the guts to venture on some companies in the name of the benefit of the cost incurred.

On the other hand, no significant differences were found on the utility scores of the rest of the attribute levels for a sales and distribution service of pharmaceutical companies when analyzed by marital status. This means that the way how drugstore managers see the rest of the attributes might not be very different; hence, they are in the same level or extent of preference as far as the choice of a sales and distribution service is concerned.

		Mean	SD	t-ratio	Sig.
high	Single	-2.5163	.40391	-1.050	.296
	Married	-2.1073	.66868		
moderate	**Single**	**.1209**	**.61767**	**2.274**	**.025**
	Married	**-.5552**	**.50453**		
low	Single	2.3954	.60127	-.796	
	Married	2.6625	.57192		.428
COD	Single	.1111	.38490	-.466	.642
	Married	.2354	.45628		
30 days	Single	-.1389	.69389	-.296	.768
	Married	-.0726	.37255		
60 days	Single	.0278	.50918	.890	.376
	Married	-.1628	.36165		
firmness	Single	.3288	.50015	-1.773	.079
	Married	.8795	.53031		
resilience	Single	-1.2631	.65806	1.098	.275
	Married	-1.4685	.30824		
severity	Single	.9342	.54016	1.168	.246
	Married	.5891	.50332		
excellent	Single	5.4363	.65466	-.077	.939
	Married	5.4584	.48443		
satisfactory	Single	-1.2696	.98377	-.618	.538
	Married	-1.0065	.71961		
poor	Single	-4.1667	.33333	1.120	.265
	Married	-4.4519	.43631		
5%	Single	.2075	.23228	1.802	.075
	Married	-.1621	.35186		
10%	Single	.0739	.30004	-1.628	.107
	Married	.2954	.23032		
15%	Single	-.2815	.26680	-1.003	.318
	Married	-.1333	.25164		

Table 8. Independent-sample t-test results for the utility scores of the attributes when analyzed per marital status

Similar results of t-test were noted wherein no significant differences were found on the utility scores that indicate the preference for a sales and distribution service when analyzed according to drugstore managers' educational attainment as well as professional alignment. This means that how drugstore

Managers who are college graduates prefer a sales and distribution service of their pharmaceutical companies no different with those who have advanced graduate degrees, and how Pharmacy graduates prefer a sales and distribution service which is no significantly different with non-Pharmacy

graduates. Their preferences are similar in these points of consideration.

Table 9. Independent-sample t-test results for the utility scores of the attributes when analyzed per educational attainment

		Mean	SD	t-ratio	Sig.
high	college grad	-2.1067	.66372	.549	.584
	graduate/ postgraduate	-2.2614	.76823		
moderate	college grad	-.5374	.52506	-.252	.802
	graduate/ postgraduate	-.4820	.47790		
low	college grad	2.6441	.56164	-.410	.683
	graduate/ postgraduate	2.7435	.78295		
COD	college grad	.2348	.44859	.353	.724
	graduate/ postgraduate	.1667	.59628		
30 days	college grad	-.0757	.37510	-.211	.834
	graduate/ postgraduate	-.0417	.51774		
60 days	college grad	-.1591	.35483	-.219	.827
	graduate/ postgraduate	-.1250	.56396		
firmness	college grad	.8639	.52415	.221	.825
	graduate/ postgraduate	.8135	.78041		
resilience	college grad	-1.4567	.32296	.944	.348
severity	graduate/ postgraduate	-1.5842	.27602		
	college grad	.5928	.49143	-.833	.407
	graduate/ postgraduate	.7706	.73218		
excellent	college grad	5.4619	.47601	.791	.431
	graduate/ postgraduate	5.2998	.64496		
satisfactory	college grad	-1.0103 -	.71304	-.052	.959
	graduate/ postgraduate	.9943	.98184		
poor	college grad	-4.4516	.43167	-.792	.431
	graduate/ postgraduate	-4.3056	.54177		
5%	college grad	-.1562	.35309	-.306	.760
	graduate/ postgraduate	-.1103	.41202		
10%	college grad	.2867	.23224	-.600	.550
	graduate/ postgraduate	.3462	.28610		
15%	college grad	-.1305	.25331	.989	.325
	graduate/ postgraduate	-.2359	.24953		

Table 10 Independent-sample t-test results for the utility scores of the attributes when analyzed per professional alignment

		Mean	SD	t-ratio	Sig.
high	non-Pharmacy	-2.1833	.60542	-.566	.573
	Pharmacy	-2.0972	.68679		
moderate	non-Pharmacy	-.4593	.46913	.865	.389
	Pharmacy	-.5615	.53413		
low	non-Pharmacy	2.6425	.54748	-.124	.902
	Pharmacy	2.6587	.58324		
COD	non-Pharmacy	.2372	.41945	.072	.943
	Pharmacy	.2297	.46711		
30 days	non-Pharmacy	-.1042	.38627	-.460	.647
	Pharmacy	-.0642	.37996		
60 days	non-Pharmacy	-.1330	.38352	.389	.698
	Pharmacy	-.1655	.36041		
firmness	non-Pharmacy	.8339	.54697	-.320	.750
	Pharmacy	.8731	.53470		
resilience	non-Pharmacy	-1.4902	.30040	-.515	.608
	Pharmacy	-1.4526	.32744		
severity	non-Pharmacy	.6563	.52018	.666	.507
	Pharmacy	.5794	.50167		
excellent	non-Pharmacy	5.4693	.53090	.140	.889
	Pharmacy	5.4536	.47306		
satisfactory	non-Pharmacy	-1.0590	.74911	-.364	.717
	Pharmacy	-.9987	.71912		
poor	non-Pharmacy	-4.4103	.41158	.449	.655
	Pharmacy	-4.4550	.44508		
5%	non-Pharmacy	-.1765	.38575	-.425	.672
	Pharmacy	-.1420	.34418		
10%	non-Pharmacy	.3071	.23344	.465	.643
	Pharmacy	.2823	.23528		
15%	non-Pharmacy	-.1307	.27833	.166	.869
	Pharmacy	-.1402	.24402		

Summary of Discussion

The purpose of the study was to determine the drugstore managers' preference for a sales and distribution service for pharmaceutical companies in Cagayan de Oro City. Through the examination of the five attributes and its corresponding levels using conjoint analysis, it determined the order of relative importance of each attribute together with the utility estimations of different levels to derive the best sales and distribution service that drugstore managers can choose. Descriptive and causal research designs were used to describe the five attributes and levels of sales and distribution service by getting the marginal utility of the attribute combinations. Primary data were gathered through the use of survey containing 21 plancards or designs of a sales and distribution service distributed to 100 drugstore managers in Cagayan de Oro City. Response was made by ranking the 21 plancards from most preferable to least preferable.

The findings obtained are as follows:

1. The first problem dealt in identifying the profile of the drugstore managers. Of the 100 drugstore managers, 47 percent have age ranging 51 to 60 years old. As to sex, 81 percent of the drug store managers are males. As to educational attainment, 93 percent of the drugstore managers are college graduates. As to marital status, 97 percent of the alignment, 74 percent of the drugstore managers are Pharmacy graduates while 26 percent are either graduates or have taken degrees not related to Pharmacy.

2. The second sub-problem dealt in determining the relative importance of the five attributes in determining the total worth of a sales and distribution service for pharmaceutical companies in Cagayan de Oro City. Conjoint analysis reveals that credibility is the most important attribute, followed by cost-effectiveness, sales policy, and collection policy. Following location are security measures, condominium type, and price. On the other hand, the least important attribute is the deals and discounts.

3. The third sub-problem dealt with determining the individual and aggregate models of a sales and distribution service for pharmaceutical companies in Cagayan de Oro City. Results reveal that the most-preferred plancard is Card ID 20, which is a sales and distribution service known for its low cost of service, known for excellent credibility, implements a 30-days payment term and 5% discount, and focuses on a sales policy centered on severity. On the other hand, the least preferred design is Card ID 15, which is a sales and distribution service known for its moderate cost of service yet poor credibility, implements a 30-day payment term, gives 10% discount, and has a sales policy focused on firmness.

4. The fourth sub-problem dealt in predicting market shares of the choice of the drugstore managers between Rank 1 design and Rank 16 design, and existing sales and distribution service for pharmaceutical companies in Cagayan de Oro City. Maximum utility and both Bradley-Terry-Luce and logit models revealed that among the four simulated designs, most drugstore managers will choose Card 25 followed by Card 22.

5. The fifth sub-problem dealt in determining significant difference on the attributes of a sales and distribution service of pharmaceutical companies when analyzed according to drugstore managers' profile. It was found out that there are significant differences seen in utility scores for resilience as a sales policy when analyzed according to age group and moderate level of cost-effectiveness when analyzed according to marital status, while no significant differences were seen on the rest of the attributes.

No significant differences were also seen when drugstore managers were analyzed according to sex, educational attainment and professional alignment.

Conclusions

Based on the findings of the study, the study concludes drugstore managers in Cagayan de Oro City are credibility conscious in choosing a sales and distribution service for their pharmaceutical businesses, while giving the least importance to deals and discounts given by these services to them.

Moreover, the most preferable design of a sales and distribution service is one that is a known for its low cost of service, known for excellent credibility, implements a 30days payment term and 5% discount, and focuses on a sales policy centered on severity.

Market simulation revealed that between Rank 1 design, rank 16 design, and two existing sales and distribution services in Cagayan de Oro City, the drugstore managers tend to choose the design of an existing company (Company XZY) with the following attributes: Cost-Effectiveness (High) + Credibility (Excellent) + Collection Policy (COD) + Discount (10%) + Sales Policy (Resilience).

Lastly, null hypothesis stating no significant difference on the preference for a sales and distribution service of pharmaceutical companies was rejected on a single attribute level of sales policy (resilience) as well as on a single attribute level of cost-effectiveness (moderate) but failed to be rejected for the rest of the attribute levels.

Recommendations

Based on the findings and conclusions of the study, the following recommendations were presented:

1. Existing sales and distribution service providers for pharmaceutical companies in Cagayan de Oro City may adopt the significant findings of the study to serve as a guide or a basis in strategic marketing and promotions campaign to maintain and increase capture of their desired market size. Likewise, their respective Sales and Marketing Department may craft marketing plans and promotional schemes that can be anchored on the findings of the study in the future decision-making.

2. Prospective and new entrant sales and distribution providers may adopt the findings of the study as a basis for their market entry campaigns and strategies, finding that the study's results are reflective of how Cagayan de Oro City market behaves as to preference.

3. Sales representatives may realign their marketing approaches and promotional campaigns based on the significant findings of conjoint analysis done in this study.

4. Further studies on determining the best attribute combinations of sales and distribution service providers, which may include higher number of attributes and well-defined attribute levels, can be done to have a much realistic result. Usage of conjoint analysis will also be effective if higher sample size is followed based on Orme's criteria.

5. Industry analysis and other business analysis tools are encouraged to be utilized to glean other meaningful insights from the pharmaceutical market in Cagayan de Oro City. This can even be replicated by doing the same study in another or a bigger geographical area.

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