

Perception of Consumer on Marketing Mix: Male vs. Female

Chai Lee Goi

Department of Marketing & Management, School of Business
Curtin University
Miri, Malaysia
goi.chai.lee@curtin.edu.my

Abstract— The mean score for all factors of marketing mix on female is much higher if compared to male. Female believe that place is the most important, however, male believe that product is the most important compared to other marketing mix factors. Both male and female confirms that there is a significant positive relationship exists between product and place, product and price, place and price, place and promotion, and price and promotion. The difference perception only found on correlation between product and promotion. Only male sample shows that product and promotion have a significant positive impact on marketing mix compared to female sample. However, both groups have proved that place and price have no impact on marketing mix. Finally, the study of model shows that it is not a good-fit model for both groups. This can be referred to GFI, AGFI, NFI, RFI, IFI, TLI and CFI were less than 0.90, which can be considered as not a good-fit model.

Keywords- product; place; price; promotion

I. INTRODUCTION

The marketing mix management paradigm has dominated marketing thought, research and practice [1], “as a creator of differentiation” [2](van Waterschoot, 2000) since it was introduced in 1940s, and “mixer of ingredients” [3].

Consumers based on gender purchase and relate products for different reasons [4]. A study done in 2000 related to the moderating role of gender in the adoption of a new software system [5]. The second study had found gender differences in relation to acquisition of in-store information for buying Christmas clothing gifts [6]. The third study had found significant differences between men and women with respect to both affective and cognitive process components based on their study on wide range of products such as clothing, consumer electronics and books [7]. Another study had also experienced different requirements for clothing and fashion products based upon age and gender [8].

II. OBJECTIVES

The main objective of the study is to analyse male and female consumers’ perception in terms of which “P” can be considered as most important among 4Ps and correlation between 4Ps. The second objective is to test model fitness based on males and females’ perception.

III. LITERATURE REVIEW

A. Product

Product is defined as “anything that can be offered to a market for attention, acquisition, use or consumption that might satisfy a want or need. It includes physical objects, services, persons, places, organisations or ideas” [9]. Well acceptances of product by customer are based on product quality and design. Product quality determines export levels [10, 11, 12, 13]. Pre- and post-sale services are an important part of the product package and can contribute to enhance performance [14, 15, 16, 10]. Wide product lines also provide an opportunity for increased export sales [17]. Broad product lines enhance profitability [18] and market share positions [12, 13] in domestic and export markets [19].

B. Place

Place strategy refers to how an organisation will distribute the product or service they are offering to the end user. “A distribution system is a key external resource. Normally it takes years to build, and it is not easily changed. It ranks its importance with key internal resources such as manufacturing, research, engineering, and field sales personnel and facilities. It represents a significant corporate commitment to large numbers of independent companies whose business is distribution and to the particular markets they serve. It represents, as well, a commitment to a set of policies and practices that constitute the basic fabric on which is woven an extensive set of long-term relationships” [7, 20]. Placing products with end users involves marketing channels comprised of intermediaries such as retailer [21]. At the outset it is clear that the distribution channel is of fundamental importance to a treatment of physical distribution, because the channel is the arena within which marketing and logistics culminate into consumer transactions [22, 21].

C. Promotion

Promotion is a vital part of business and is an integral ingredient of the total marketing process. It helps to make potential customers aware of the many choices available regarding products and services [23]. A successful product or service means nothing unless the benefit of such a service can be communicated clearly to the target market [24]. Perceptions on promotion have provided a number of explanations as to why certain promotion tools are preferred over others. The factors include media attributes, target

audience reach capability, cost-effectiveness, nature of business, demographic and nationality of the retailers [23]. An organisation's promotional strategy can consist of sales promotion, advertising, sales force, public relations and direct marketing [9].

D. Price

Price is the only variable in the marketing mix that must be set in relation to the other three Ps [25]. Pricing is one of the most important elements of the marketing mix, as it is the only mix, which generates a turnover for the organisation. The remaining 3P's are the variable cost for the organisation. It costs to produce and design a product; it costs to distribute a product and costs to promote it. Price must support these elements of the mix. Pricing is difficult and must reflect supply and demand relationship. Pricing a product too high or too low could mean a loss of sales for the organisation. Pricing should take into account on fixed and variable costs, competition, company objectives, proposed positioning strategies, and target group and willingness to pay [26]. Bilkey (1982, 1985) finds that higher prices lead to higher profitability [27, 28]. However, another study by Cavusgil and Zou (1994) report that the relationship between price competitiveness and performance is not significant. It may be that time horizons differed across studies [29]. Higher prices may increase short-term profitability, but, in the long-term, it may lead to lower sales and profits thus explaining the conflicting findings [19]. Price may serve as a substitute for selling effort, advertising, and product quality. Alternatively, price may be used to reinforce other activities in the marketing mix programme, e.g. the usually inflated price charged for Kellogg's and the resulting association with product quality. In many cases price can provide an incentive to intermediaries and company salespeople, the focus of promotional strategy, and a sign of value [30].

IV. METHODOLOGY

The questionnaire will be based on 5-points Likert Scale: (1) unimportant, (2) of little importance, (3) moderately important, (4) important, and (5) very important. Four factors of the marketing mix were included in this questionnaire: product, place, promotion and price. Number of journals and reports were selected to review the idea of marketing mix applied in the current market. Self-administered questionnaire is designed to collect the data mainly from a person graduated with business degree and business degree students around Malaysia. The reason to choose this group is they have experiences as consumer and have some knowledge in marketing especially marketing mix as what they learned during the study time. The data collected were analysed using SPSS and AMOS. SPSS will be used for mean score and coefficient of correlation, and AMOS will be used for regression weights and model fitness testing.

V. RESULTS AND ANALYSIS

A. Correlation

55% (66 respondents) of the respondents are female compare to 45% are male (54 respondents). At significant

level $P < 0.05$, the study of males confirms that there is a significant positive relationships exists between product and place ($r = .549$), product and price ($r = .520$), place and price ($r = .293$), place and promotion ($r = .271$), and price and promotion ($r = .290$). However, even there is a positive correlation between product and promotion ($r = .218$), but the correlation is not significant due to $P > 0.05$. Compared to female, all correlations are positive and it is significant either at .01 or .05. Thus, females more strongly agree that a significant relationship exists between product and place ($r = .588$), product and price ($r = .446$), product and promotion ($r = .574$), place and price ($r = .423$), place and promotion ($r = .510$), and price and promotion ($r = .447$). An overall of study shows that the correlation between four factors of marketing mix is either between weak positive correlation and moderate positive correlation (.250 - .500) or moderate positive correlation and strong positive correlation (.500 - .750).

B. T-Test

The study shows that the mean score for all factors for female is much higher compared to male. This can be referred to the mean score for product is 4.0424 for female and 3.8519 for male, for place is 4.0505 for female and 3.7130 for male, for price is 3.9485 for female and 3.6926 for male, and finally for promotion is 4.0394 for female and 3.8333 for male. Refer to mean score, female believe that place is the most important and male believe that product is the most important compared to other marketing mix factors. The Levene's test has a probability greater than .05. Thus, we can assume that the population variances are relatively equal. The two-tail significance for product (.431), place (.105) and price (.573) additive indicates that $p > .05$ and thus is not significant. Therefore, there is significant difference perception between male and female on product, place and price. However, the study of promotion shows that the significance for Levene's test is .022 and t-test for Equality of Means is $p > .05$ (2-tailed), thus there is no significant difference perception between male and female on promotion (.071).

C. Model Fitness Testing

Goodness-of-fit test determines if the model being tested should be accepted or rejected. As a test of the measurement and path models, a mixture of fit-indices was employed to assess model fit. The ratio of chi-square to degrees of freedom (χ^2/df) was computed, with ratios of less than 2.0 indicating a good fit. However, since absolute indices can be adversely affected by sample size [31], three other relative indices, GFI, AGFI, and TLI were computed to provide a more robust evaluation of model fit [37, 38] (Tanaka, 1987; Tucker and Lewis, 1973). At least four tests, such as chi-square; GFI, NFI or CFI; TLI; and RMR [32]. The chi-square value (CMIN) for males is 461.657 and female is 562.687, which is highly significant ($p = < 0.001$). However, that this does not mean the model is good. In fact it is the opposite, from the point of view of statistical significance. Thus, the model is badness-of-fit.

Goodness-of-fit are based on fitting the model to sample moments, which means to compare the observed covariance matrix to the one estimated on the assumption that the model being tested is true. These measures thus use the conventional discrepancy function. The chi-square value should not be significant if there is a good model fit, while a significant chi-square indicates lack of satisfactory model fit. That is, chi-square is a badness of fit measure in that a finding of significance means the given model's covariance structure is significantly different from the observed covariance matrix. If model chi-square < 0.05 , the model is rejected. Hoelter's critical N is the size the sample size must reach for the researcher to accept the model by chi-square, at the 0.05 or 0.01 levels. This throws light on the chi-square fit index's sample size problem. Hoelter's N should be greater than 200 [32]. The relative chi-square should be in the 2:1 or 3:1 range for an acceptable model [33]. Another suggestion is 3 or less is acceptable [34]. Some researchers allow values as high as 5 to consider a model adequate fit, while others insist relative chi-square be 2 or less. Hoelter, at the 0.05 or 0.01 levels is 40 or 42 for males and females, which is less than 200 and relative chi-square (CMIN/df) less than 5, which is 1.544 for males and 1.882 for female. Thus, on the basis of the results obtained for Hoelter, at the 0.05 or 0.01 levels and relative chi-square, we would say that the model is adequate fit.

For GFI and AGFI, coefficients closer to unity indicate a good fit, with acceptable levels of fit being above 0.90 [35]. AGFI can yield meaningless negative values. $AGFI > 1.0$ is associated with just-identified models and models with almost perfect fit. $AGFI < 0$ is associated with models with extremely poor fit. The closer the RMR to 0 for a model being tested, the better the model fit. Another opinion related to CFI, IFI and TLI also agreed that coefficients closer to unity indicate a good fit, with acceptable levels of fit being above 0.90 [32]. NFI, TLI, CFI and RFI are varies from 0 to 1. NFI, TLI, CFI and RFI close to 1 indicate a very good fit. For males, the fit indices of GFI and AGFI were 0.621 and 0.555, respectively, suggesting that this model not provides a good fit. NFI (0.325), RFI (0.267), IFI (0.578), TLI (0.508) and CFI (0.547) were less than 0.90, which can be considered as not a good-fit model. The study of female samples also shows that GFI (0.745), AGFI (0.697), NFI (0.448), RFI (0.400), IFI (0.634), TLI (0.) and CFI (0.621) were less than 0.90.

For RMR and RMSEA, evidence of good fit is considered to be values less than 0.05; values from 0.05 to 0.10 are indicative of moderate fit and values greater than 0.10 are taken to be evidence of a poorly fitting model [36]. The value of RMR (male = 0.099, female = 0.089) is between 0.05 and 0.10. Thus, it provides evidence of moderate good fit. The value of RMSEA (male = 0.101, female = 0.116) greater than 0.10 are taken to be evidence of a poorly fitting model. Finally, PNFI and PCFI were 0.299 and 0.504 for males and 0.413 and 0.517 for female. The closer model is to the saturated model (<0.001), the more PNFI and PCFI is penalised (see Table I) [32].

Fit Measure	Male	Female
Discrepancy (CMIN)	461.657	562.687
Degree of freedom (DF)	299	295
P=Value (P)	<0.001	<0.001
Number of Parameters (NAPR)	52	52
Discrepancy/df (CMIN/ DF)	1.544	1.882
Root mean Square residual (RMR)	.099	.089
Goodness of fit index (GFI)	.621	.745
Adjusted goodness of fit index (AGFI)	.555	.697
Parsimony goodness of fit index (PGFI)	.529	.626
Normed Fit Index (NFI)	.325	.448
Relative fit index (RFI)	.267	.400
Incremental fit index (IFI)	.578	.634
Tucker-Lewis index (TLI)	.508	.588
Competitive fit index (CFI)	.547	.621
Parsimony ratio (PRATIO)	.920	.920
Parsimony adjustment to the Normed Fit Index (PNFI)	.299	.413
Parsimony adjustment to the Competitive fit index (PCFI)	.504	.571
Noncentrality parameter (NCP)	162.657	263.687
Lower boundary of a two-sided 90% confidence interval for the population NCP (LO 90)	108.474	200.689
Upper boundary of a two-sided 90% confidence interval for the population NCP (HI 90)	224.789	334.499
Minimum discrepancy function F (FMIN)	8.711	8.657
Estimated population discrepancy (F0)	3.069	4.057
Lower boundary of a two-sided 90% confidence interval for the population F0 (LO 90)	2.047	3.088
Upper boundary of a two-sided 90% confidence interval for the population F0 (HI 90)	4.241	5.146
Root Mean Square Error of Approximation (RMSEA)	.101	.116
Lower boundary of a two-sided 90% confidence interval for the population RMSEA (LO 90)	.083	.102
Upper boundary of a two-sided 90% confidence interval for the population RMSEA (HI 90)	.119	.131
P for test of close fit (PCLOSE)	0.000	0.000
Akaike Information Criterion (AIC)	565.657	666.687
Browne-Cudeck Criterion (BCC)	673.657	740.582
Bayes Information Criterion (BIC)	669.084	780.549
Consistent AIC (CAIC)	721.084	832.549
Expected cross validation index (ECVI)	10.673	10.257
Lower boundary of a two-sided 90% confidence interval for the population ECVI (LO 90)	9.650	9.288
Upper boundary of a two-sided 90% confidence interval for the population ECVI (HI 90)	11.845	11.346
MECVI	12.711	11.394
Hoelter .05	40	40
Hoelter .01	42	42

TABLE I. FITNESS OF MODEL

D. Regression Weights

An only male sample shows that product and promotion have a significant positive impact on marketing mix compared to female sample. However, both groups have

proved that place and price have no impact on marketing mix (see Table II).

TABLE II. REGRESSION WEIGHTS

			Estimate	S.E.	C.R.	P
Product	Marketing Mix	Male	4.329	17.544	.247	.805
		Female	2.005	.913	2.196	.028
Place	Marketing Mix	Male	.781	.356	2.196	.028
		Female	1.223	.337	3.625	***
Price	Marketing Mix	Male	.772	.307	2.514	.012
		Female	.855	.247	3.465	***
Promotion	Marketing Mix	Male	.232	.253	.915	.360
		Female	1.435	.424	3.387	***

VI. CONCLUSION

Both groups (male and female) have agreed that all marketing mix factors are important. This can be referred to the mean score is greater than 2.5 out of 5.0. However, the mean score for all factors of marketing mix on female is much higher if compared to male. Another similarity between male and female confirms that there is a significant positive relationship exists between product and place, product and price, place and price, place and promotion, and price and promotion. The difference perception only found on correlation between product and promotion. Only male sample shows that product and promotion have a significant positive impact on marketing mix compared to female sample. However, both groups have proved that place and price have no impact on marketing mix. Finally, the study of model shows that it is not a good-fit model for both groups. This can be referred to GFI, AGFI, NFI, RFI, IFI, TLI and CFI were less than 0.90, which can be considered as not a good-fit model.

REFERENCES

- [1] C. Grönroos, "From Marketing Mix to Relationship Marketing: Towards A Paradigm Shift in Marketing", *Management Decision*, vol. 32, 1994, pp. 4-20, doi: 10.1108/00251749410054774.
- [2] W. Van Waterschoot, "The Marketing Mix as a Creator of Differentiation". in *The Oxford Textbook of Marketing*, K. Blois, Ed., Oxford: Oxford University Press, 2000.
- [3] J.W. Culliton, *The Management of Marketing Costs*, Division of Research, Graduate School of Business Administration, Harvard University, Boston, 1948.
- [4] H. Dittmar, J. Beattie and S. Friese, "Objects, Decisions, Considerations and Self-Images in Men's and Women's Impulse Purchases", *Acta Psychologica*, vol. 93, Sept. 1996, pp. 187-206, doi: 10.1016/0001-6918(96)00019-4.
- [5] V. Venkatesh and M.G. Morris, "Why Don't Men Ever Stop to Ask for Directions? Gender, Social Influence and their role in Technology Acceptance and Usage Behaviour". *MIS Quarterly*, vol. 24, March 2000, pp. 115-139, doi: 10.2307/3250981.
- [6] M. Laroche, G. Saad, E. Browne, M. Cleveland and C. Kim, "Determinants of In-store Information Search Strategies Pertaining to a Christmas Gift Purchase", vol. 17, March 2000, doi: 10.1111/j.1936-4490.2000.tb00203.x.
- [7] E.R. Corey, "Industrial Marketing: Cases and Concepts", N.J: Prentice Hall, 1991.
- [8] M.A.V. Rocha, L. Hammond and D. Hawkins, "Age, Gender and National Factors in Fashion Consumption", *Journal of Fashion Marketing and Management*, vol. 9, 2005, pp. 380-390, doi: 10.1108/13612020510620768.
- [9] P. Kotler, A. Steward, L. Brown and G. Armstrong, G., "Principles of Marketing", USA: Prentice Hall, 2003.
- [10] N. Piercy, "British Exporter Market Selection and Pricing", *Industrial Marketing Management*, vol. 10, 1981, 287-297, doi: 0.1016/S0019-8501(98)00045-5.
- [11] T. Schneeweiss, "A Note on International Trade and Market Structure", *Journal of International Business Studies*, vol. 16, June 1985, pp. 139-152, doi:10.1057/palgrave.jibs.8490455.
- [12] D.M. Szymanski, S.G. Bharadwaj and P.R. Varadarajan, "A Cross-National Comparison of the Determinants of Business Performance: Implications for Global vs. Multi-Domestic Strategies", in *Enhancing Knowledge Development in Marketing 3*, R.P. Leone and V. Kumar, Eds., IL: AMA, 1992.
- [13] D.M. Szymanski, S.G. Bharadwaj and P.R. Varadarajan, "Standardization versus Adaptation of International Marketing Strategy: An Empirical Investigation", *Journal of Marketing*, vol. 57, Oct. 1993, 1-14.
- [14] M.R. Czinkota and W.J. Johnston, "Segmenting US Firms for Export Development", *Journal of Business Research*, vol. 9, Dec. 1981, pp. 353-365, doi: 10.1016/0148-2963(81)90012-6.
- [15] B.J. Lalonde and M.R. Czinkota, "The Role of Physical Distribution in the Export Activity of US Manufacturing Firms", *International Journal of Physical Distribution & Materials Management*, vol. 15, 1981, pp. 5-11, doi: 10.1108/eb014503.
- [16] N.E. Marr, "Understanding Customer Service for Increased Competitiveness", *International Marketing Review*, vol. 4, 1987, 45-53, doi: 10.1108/eb008335.
- [17] D.P. Campbell and C.P. Rao, "Firm Internationalization: A Comparison of Current Models", in *Developments in Marketing Science*, K.D. Bahn, K.D., Ed., LA: The Academy of Marketing Science, pp. 88-101, 1988.
- [18] R. Morrison and D. Travel, "New Products and Market Position", Cambridge, MA: PIMSLETTER, Strategic Planning Institute, vol. 28, 1982.
- [19] A. Shoham and F. Kropp, "Explaining International Performance: Marketing Mix, Planning, and Their Interaction", *Marketing Intelligence & Planning*, vol. 16, 1998, pp. 114-123, doi: 10.1108/02634509810209641.
- [20] P. Kotler, S.H. Ang, S.M. Leong and C.T. Tan, "Marketing Management: An Asian Perspective", Singapore: Pentice Hall, 1999.
- [21] I.F. Wilkinson, "Distribution Channel Management: Power Considerations", *International Journal of Physical Distribution & Logistics Management*, vol. 26, 1996, pp. 31-41, doi: 10.1108/09600039610757692.
- [22] D.J. Bowersox, E.W. Smykay and B.J. La Londe, "Physical Distribution Management", 2nd Ed., NY: Collier-Macmillan, 1968.
- [23] K.S. Fam and B. Merrilees, "Exploring the Relevance of Strategic Promotion Management Approach Among Small Independent Retailers", *International Journal of Retail & Distribution Management*, vol. 26, 1998, pp. 354-361, doi: 10.1108/09590559810237890.
- [24] Learnmarketing.net, "Marketing Mix (4 P's) - Promotion and Promotional Strategies", n.d, <http://www.learnmarketing.net/promotion.htm>.
- [25] S.P. Low and M.C.S. Tan, "A Convergence of Western Marketing Mix Concepts and Oriental Strategic Thinking", *Marketing Intelligence & Planning*, vol. 13, 1995, pp. 36-46, doi: 10.1108/02634509510083491.
- [26] Learnmarketing.net, "Pricing Strategies (4 P's) and Price Considerations - The Marketing Mix", n.d, <http://www.learnmarketing.net/price.htm>.

- [27] W.J. Bilkey, "Variables Associated With Export Profitability", *Journal of International Business Studies*, vol.13, June 1982, pp. 39-55, doi: 10.1057/palgrave.jibs.8490549.
- [28] W.J. Bilkey, "Development of Export Marketing Guidelines", *International Marketing Review*, vol. 2, 1985, pp. 31-40, doi: 10.1108/eb008268.
- [29] T.S. Cavusgil and S. Zou, "Marketing Strategy-Performance Relationship: An Investigation of the Empirical Link in Export Market Ventures", *Journal of Marketing Research*, vol. 58, 1994, pp. 1-21.
- [30] W.G. Zikmund and M. D'Amico, "Marketing", MN: West Publishing Company, 1993.
- [31] J.C. Loehlin, "Latent Variable Models: An Introduction to Factor, Path and Structural Analysis", NJ: Hillsdale, 1992.
- [32] D. Garson, "Structural Equation Modeling", College of Humanities and Social Sciences, North Carolina State University, Raleigh, NC, 2006, <http://www2.chass.ncsu.edu/garson/pa765/structur.htm>.
- [33] E.G. Carmines and J.P. McIver, "Analysing Models with Unobserved Variables", in *Social Measurement: Current Issues*, G.W. Bohrnstedt and E.F. Borgatta, Eds., CA: Sage Publications, 1981, pp. 65-115.
- [34] R.B. Kline, "Principles and Practice of Structural Equation Modeling", NY: Guilford Press, 1998.
- [35] H.W. Marsh, J.R. Balla and R.P. McDonald, "Goodness-of-Fit Indexes in Confirmatory Factor Analysis: The Effect of Sample Size", *Psychological Bulletin*, vol. 103, 1988, pp. 391-410.
- [36] M.W. Browne and R. Cudeck, "Alternative Ways of Assessing Model Fit, in *Testing Structural Equation Models*, K.A. Bollen and J.S. Long, Eds., Newbury Park, CA: Sage, 1993, pp. 136-162.
- [37] J.S. Tanaka, "How Big Is Enough? Sample Size and Goodness-of Fit in Structural Equation Models with Latent Variables", *Child Development*, vol. 58, 1987, pp. 134-146.
- [38] L.R. Tucker and C. Lewis, "The Reliability Coefficient for Maximum Likelihood Factor Analysis", *Psychometrika*, vol. 38, 1973, pp. 1-10.