# The Influence of Hi-Tech Product Quality and After-sales Service Quality on Customer Satisfaction a Case of Philips Med

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#### **ABSTRACT**

Along with the level of living rise and life extension, health care concept gains ground, urges the demand of medical supplies to expand increasingly, reveals the medical supplies market will has a lot of opportunities in the future. But the complexity of medical product and the importance of brand raise the market threshold. The medical supplies entrepreneur how to succeed from oligopoly market? To enhance the product quality and customer's service quality, provide the right product and service which customer expected then raise the customer satisfaction and loyalty. This study uses the concept "Customer satisfaction is effected by the perceived service quality, perceived product quality, perceived price "that is brought up by Zeithaml and Bitner (1996), with the medical supplies company conducts the study object, adjusts the variable of research, establishes the research construction, develops research questionnaire, collects survey data, uses SSPS analysis method and Structural Equation Model (SEM) to verify the pattern of research conceptual construction. The major results were summarized as follows: 1. Actual quality and perceived quality relations: Actual product quality and actual service quality with perceived product quality and perceived service quality present positive correlation. 2. Expected quality and perceived quality relations: Expected product quality and expected service quality with perceived product quality and perceived service quality present negative correlation. 3. Perceived quality and customer satisfaction relations: Perceived product quality with customer satisfaction present positive correlation. But in the relation of perceived service quality and customer satisfaction, just "Reliability" and "Responsiveness" present positive correlation; other three factors present negative correlation, and no significant correlation. It means this research assumption "perceived service quality and customer satisfaction present positive correlation" just established partially.

Keywords: product quality; service quality; customer satisfaction

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### **REFERENCES**

一、中文部份 1. 李永年(1998)。產品品質與服務品質對顧客滿意度及忠誠度之影響-以加油站為例,政治大學企業管理研究所碩士論文,台北市。 2. 李佳璋(1997)。產品績效指標、消費者滿意度及構後行為之整合性分析,台大管理論叢,第一卷第一期:25-28。 3. 何瑞明(2000)。醫療器材優良製造規範GMP與醫院醫療器品質確保之研究。中原大學醫學工程系碩士論文,桃園縣。 4. 別蓮蒂(1998)。中國石油公司加油站顧客消費者行為與滿意度研究,中國石油股份有限公司委託國立政治大學企業管理學系研究。 5. 林淑萍(2001)。航空公司網路定位售票行銷策略與顧客滿意之研究 以國內航線為例,南華大學旅遊事業管理研究所碩士論文。 6. 林陽助(1996)。顧客滿意度決定模型與效果之研究 台灣自用小客車之實證,國立台灣大學商學研究所博士論文,台北。 7. 洪順慶(1999)。行銷管理,台北市,新陸書局。 8. 周泰華、黃俊英與郭德賓(1999)。服務品質與顧客滿意評量模式比較研究,輔仁管理評論,第六卷第一期:37-68。 9. 許惠娟(1994)。顧客滿意、服務品質與服務價值關係之研究 零售業之實證,中原大學企業研究所碩士論文。 10. 黃永松(2001)。醫療器材業

```
經營策略之研究-以個案公司為例,政治大學商學院經營管理學程系企管組商學碩士論文,台北市。 11. 陳光榮(2001)。高科技產業行銷
策略,經濟部公報第7卷第一期。 12. 喬友慶(1999)。從管理機會方格看顧客滿意度-以銀行業為例,國立彰化師範大學商業教育學系碩士
論文,彰化市。 13. 張永立(1998)。台灣醫療器材環境與市場競爭策,國立交通究所未出版碩士論文,新竹市。 14. 蕭富峰(1996)。影響
服務品質關鍵因素之研究,國立政治大學碩士論文,台北市。 15. 行政院衛生署(2001)。醫療器材優良製造規範及注意事項,台灣區醫
療器材工業同業公會。 16. 經濟部工業局(1999)。醫療保健器材工業,製造業發展策略與措施。 二、英文部份 1. Aaker, D. A.(1996).
Measuring Brand Equity Across Product and Markets California Management Review, Vol. 38 No. 3, 102-120, 2, Anderson, Eugene W. and Mary
W. Sullivan (1990). Customer Satisfaction and Retention Across Firms, presentation at the TIMS College of Marketing Special Interest Conference
on Services Marketing, Nashville.TN. (September). 3. Anderson, Eugene W., Claes Fornell, and Donald R. Lehmann (1994). Customer
Satisfaction, Market Share, And Profitability: Findings From Sweden, Journal of Marketing, Vol. 58, July, 53-66. 4. Barry and Joel R. Evans (1978).
Retail Management: A Stragetic Approach, 4th ed., New York: Macmillan Publishing, 101. 5. Berry, Leonard L., A. Parasuraman, and Valarie A.
Zeithaml (1988). The Service-Quality Puzzle, Business Horizons, Sep-Oct, 35-43. 6. Carman, James M. (1970). Correlates of Brand Loyalty: Some
Positive Results, Journal of Marketing Research, Vol.7, 67-76. 7. Carman, James M. (1990). Consumer Perceptions of Service Quality: An
Assessment of the SERVQUAL Dimensions, Journal of Retailing, Vol. 66, No.1, Spring, 33-55, 8, Cronin, J. Joseph, and Steven A. Taylor
(1992). Measuring Service Quality: A Reexamination and Extension, Journal of Marketing, Vol.56, July, 55-68, 9. Crosby, P. (1979). Quality is free:
The Art of Making Quality Certain, New: McGraw-Hill 10. Cunningham, Ross M. (1956). Brand Loyalty: What, Where, How much?, Harvard
Business Review, Vol.34, No1, 116-128. 11. Dabholkar, Pratibha A., Dayle I. Thorpe, and Joseph O. Rentz (1996). A Measure of Service Quality
for Retail Stores: Scale Development and Validation, Journal of the Academy of Marketing Science, Vol.24, No.1, Winter, 3-16. 12. Davidow,
Willian H. and Bro Uttal (1991). 13. Fay, Christopher J. (1994). Royalties from loyalties, Journal of Business Strategy, Vol.15, 47-51. 14. Fornell,
Claes (1992). A national Customer Satisfaction Barometer: The Swedish Experience, Journal of Marketing, Vol.56, No.1, January, 6-21. 15.
Fredericks, Joan O. and James M. Salter II (1995). Beyond Customer Satisfaction, Management Review 84: 29-32. 16. Garvin, David A. (1984).
What Does Product Quality Really Mean, Sloan Management Review, Fall, 25-43. 17. Gilmour, Peter (1997). Customer Service Differentiation by
Marketing Segment, International Journal of Physical Distribution and Materials Management, Vol.7, No.3, 145. 18. Gronroos, Christin (1984). A
Service Quality Model and its Marketing Implications, European Journal of Marketing, Vol.18, No.4, 37-45 19. Gronroos, C. (1990). Service
Management and Marketing - Managingthe Moments of Truth in Service Competition. Lexington, MA. 20. Guest, Lester P. (1955). Brand
Loyalty-Twelve Years Later, Journal of Applied Psychology, Vol.39, 1955, 405-408. 21. Harvard Business Review (2000). The Service-Profit Chain
To Work, Vol. 72, No. 2, March-April, 164-172. 22. Holbrook, M. B. and K. P. Corfman (1985). Quality and Value in the Consumption
Experience: Phaedrus Riders Again "in Perceived Quality, J. Jacoby and J. Olson, eds. Lexington, MA Lexington Books, 31-57. 23. Jacoby, Jacob
(1971). A Model of Multi Brand Loyal, Journal of Adverting Research, Vol.11, 25-30. 24. Juran, J.M., Quality Control Handbook, 3rd ed., New
York, McGraw-Hill. 25. Kolodinsky, Jane (1996). Consumer Satisfaction with Managed Health Care, Consumer Interest Annual, Vol.42, 97-104.
26. Kolter, Philip (1991). Marketing Management: Analysis, Planning, and Control, New Jersey: Prentice-Hall, Inc. 455. 27. Kotler, Philip (1999).
Marketing Management: Analysis, Planning, Implementation and Control, 9th ed. Englewood Cliffs, NJ: Prentice-Hall Inc, 1999. 28. Kotler, P.
(2000). Marketing Management, Tenth edition. Prentice-Hall, New Jersey, 36-37. 29. Lambert, Douglas M. and James R. Stock (1993). Strategic
Logistics Management, 3rd ed., Boston, Irwin, 30, Lalonde, Bernard J. and Paul H. Zinszer(1976), Customer Service; Meaning and Measurement,
National Council of Physical Distribution Management, Chicago, 281. 31. Lefkoff-Hangius, Poxanne and C.H. Mason (1993). Characteristic,
Beneficial, and Image Attributes in Consumer Judgments of Similarity and Perference. Journal of Consumer Research, Vol.20, 128 32. Lehtinen,
Uolevi and Jarmo R. Lehtinen (1991), "Two Approachs to Service Quality Diminions," Service Industries Journal, Vol.11, No3, July, 287-303.
33. Oliver, Richard L. (1980), "A Cognitive Model of the Antecedents and ConSquare of Satisfaction Decisions," Journal of Marketing
Research, Vol.17, November, 460-469. 34. Olshavsky, Richard N. and John A. Miller (1972). Consumer Expectations, Product Performance, and
Perceived Product Quality, Journal of Marketing Research, Vol.9, February, 19-21. 35. Olson, J. C., & Jacoby, J. (1974). Intrinsic versus extrinsic
130 cues as determinants of perceived product quality. Journal of Applied Psychology, 59-74. 36. Parasuraman, A, Zeithaml, V. A and Berry, L.
L.(1985). QualityCovnts in Service, Too, Business Horizons, Vol. 28, 44-53. 37. Parasurman, A., V.A. Zeithaml, and L.L. Berry (1988a).
SERVQUAL: A Multiple-item Scale for Measuring Customer Perceptions of Service Quality. Journal of Retailing, Vol.64, 12-40. 38. Parasuraman
A., V. A. Zeithaml, and, L. L Berry (1988b). Communication and Control Processes in the Delivery of Service quality, Journal of Marketing, Vol.
52, No. 2, 38-48. 39. Parasuraman, A Zeithaml, V. A., and Berry, L. L. (1991). Refinement and Reassessment of the SERVQUAL Scale ", Journal
of Retailing, Vol. 67, 420-450. 40. Parasuraman A., V. A. Zeithaml, and, L. L. Berry (1993). The Neture and Determinants of Customer
Expectations of Service, Journal of the Academy of Marketing Science, Vol. 21, No. 1, Winter, 1-12. 41. Parasuraman, A. Zeithaml, V. A., and
Berry, L. L.(1994), Reassessment of Expectations As A Comparison Standard In Measuring Service, Quality: Implication for Further Research,
Journal of Marketing, Vol. 58, 111-124. 42. Parasuraman, A. Zeithaml, V. A., and Berry, L.L. (1994). Alternatives Scales for Measuring Service
Quality: A Comparative Assessment Based On Psychometric and Diagnostic Criteria, Journal of Marketing, Vol. 70, 201-230. 43. Plair Quentin,
1999, Customer satisfaction and loyalty in supply chain: the role of communication, Transportation Research part, 121-134, 44, Regan, W. J.
(1963), The service Revolution, Journal of marketing, Vol.27, July, 57-62. 45. Sasser, W.E., R.P. Olsen and D.D. Wyckoff (1978), Mananagement
of service operations, Boston: Allyn and bacon, 19-72. 46. Selnes, Fred (1993), "An Examination of the Effect of Product performance on Brand
Reputation, Satisfaction and Loyalty, " European Journal of Marketing, Vol27, No9, 19-35. 47. Shanklin, W. L.. & Ryans, Jr. (1982), " Marketing
```

High Technology, "Strategy Management Journal, 3: 35-52. 48. Sherman, B.(1982), "Successful Marketing Strategy for High Tech Firms," Journal of Retailing, 58: 25-43. 49. Uolevi and Jarmo R. Lehtinen (1991). Two Approachs to Service Quality Diminions, Service Industries Journal, Vol.11, No3, July, 287-303. 50. Young, S. and B. Feigin (1975). Using the Benefit Chain for 133 Improved Strategy Formulation. Journal of Marketing, 39(July), 72-74. 51. Woodruff. R.B. E.R. and Ro 52. Zeithaml, Valarie A. (1988), "Consumer Perceptions of Price, Quality, and Value: A Means-End Model and Synthesis of Evidence," Journal of Marketing, Vol.52, July, pp.2-22. 53. Zeithaml, Valarie A. and Mary Jo Bitner (1996), "Service Marketing," Mcgraw-Hill. 54. Zeithaml, Valarie A., A. Parasuraman, and Leonard L. Berry, (1985), "Problem and Strategies in Service Marketing," Journal of Marketing, Vol.49, Spring, pp.33-46.