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**Article**

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## Consumer evaluation of perceived risks for goods and services

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Perceived risk is known to be an important determinant of consumer behaviour. However, prior research has focussed on goods rather than services. The purpose of this exploratory research was to identify any differences between goods and services in terms of perceived risk and risk reduction strategies. Two new components of risk, namely specification risk and the risk of loss of control, were identified as being specifically associated with services. Empirical evidence gathered leads to the conclusion that as far as risk is concerned, a simple classification of products as goods or services is inadequate: an additional hybrid class comprising both goods and services is also necessary. These three categories of product are associated with different types of perceived risk. Also, risk reduction strategies were found to be dependent on product rather than on the type of risk.

Waarneembare risiko word as 'n belangrik determinant van verbruikersgedrag beskou. Die fokus het egter in vroeëre navorsing in 'n groter mate op goedere as dienste geval. Die doel van hierdie ondersoekende navorsing was om enige verskille tussen goedere en dienste te identifiseer ten opsigte van waarneembare risiko en risikoverminderingstrategieë. Twee nuwe komponente van risiko, naamlik spesifikasierisiko en die risiko van verlies aan beheer, is geïdentifiseer as risiko's wat in die besonder met dienste geassosieer word. Die empiriese bewyse wat ingesamel is, lei daartoe dat die gevolgtrekking gemaak word dat sover as wat dit risiko aangaan, 'n eenvoudige klassifikasie van produkte as goedere of dienste onvoldoende is: 'n addisionele basterklas wat uit beide goedere en dienste bestaan, is ook noodsaaklik. Hierdie drie kategorieë van produkte word met verskillende tipes waarneembare risiko geassosieer. Daar is ook gevind dat risikoverminderingstrategieë afhanklik is van die produk, eerder as die tipe risiko.

### Introduction

It has long been recognized that perceived risk plays an important role in consumer buyer behaviour (for instance Bauer, 1967; Cox, 1960; Taylor, 1974; Engel, Blackwell & Miniard, 1986). Cox states:

'The basic assumption is that consumer behaviour is goal orientated. When the consumer identifies a situation and defines a set of buying goals with uncertainty being perceived in changing from the existing state to attain the goals, then risk is said to exist' (1967: 37).

The study of perceived risk has been primarily focussed on consumer buying behaviour with respect to goods (for instance, Cunningham, 1967; Perry, & Hamm, 1969; Jacoby & Kaplan, 1972; Kaplan, Szybillo & Jacoby, 1974; Lutz & Reilly, 1973 and Bettman, 1973). The literature relating to perceived risk for services is limited (for instance Lewis, 1976; Guseman, 1977; 1981 and George, Weinberger & Kelly, 1985). More recent research exploring the evaluation process of goods and services (for instance Ewels, 1989; Venegas, 1990; Kellen, 1990; Anderson, 1991; Cambitzi, 1991 and Borman, 1993) has indicated that different aspects of perceived risk are key discriminators between goods, services and knowledge products.

The purpose of this exploratory research was to identify any differences between goods and services in terms of perceived risk and risk reduction strategies.

### Literature review

Roselius (1971) found empirical evidence that consumers have preferences for different methods of risk reduction for different types of loss or risk. He identified time, hazard, ego and money as the primary types of losses that consumers can incur. In the Jacoby & Kaplan (1972) study, five components of risk were identified, namely performance, social, financial, physical and psychological risk plus a measure of global (overall) risk. Performance risk was found to explain more

than any other type of consequence across twelve different goods. Lewis (1976), using these six measures plus the time risk dimension suggested by Roselius (1971), studied ten services, ten goods and ten good-service combinations. He found that services were perceived to be riskier than goods in all types of risk except physical, where there were no perceived differences. Good-service combinations were perceived to represent higher risk than goods on all dimensions of risk.

Cunningham (1967) conceptualized perceived risk as comprising the components of uncertainty and consequence. He used these two scales to derive a global perceived risk measure. Guseman (1977) utilized the Cunningham (1967) approach of looking at uncertainty and consequences to examine the differences between goods and services. He also made use of the components of physical, financial, ego and time loss. Guseman (1977) found that services were perceived as having more risk than goods on all dimensions.

George, Weinberger & Kelly (1985), using an instrument very similar to that of Lewis (1976), studied four paired goods-services (for example colour television and colour television repair) which were evaluated by 100 consumers in a mall intercept study. Important differences between product pairs were found; for instance, the good was found to be more risky on the financial dimension for the colour television/colour television repair pair while the service was found to be more risky for the eyeglasses/eye examination and carpeting/carpet cleaning pairs. These findings led George *et al.* to conclude:

'As contrasted with the previous work by Lewis (1976) and Guseman (1977; 1981), an important finding of this study is that the generalizations suggesting that services are universally perceived as more risky than goods are extremely tenuous?' (1985: 91).

Zeithaml posited eleven hypotheses regarding the differences in the consumer evaluation processes between goods

and services. Besides the generic hypothesis that consumers perceive greater risks when buying services (hypothesis 8), she states:

'Hypothesis 10: Consumers attribute some of their dissatisfaction with services to their own inability to specify or perform their part of the service.

Hypothesis 11: Consumers may complain less frequently about services than about (goods) due to their belief that they themselves are partly responsible for their dissatisfaction' (1981: 189).

Both of these hypotheses encapsulate a category of risk not previously identified in the literature, namely specification risk which is the risk of the consumer having difficulty in specifying the nature of the desired service. Ewels (1989) tested the Zeithaml (1981) hypotheses and confirmed that risk was indeed the principal discriminator between certain categories of goods and services. Durable goods as well as equipment-based, customized services with a low degree of customer involvement (for example television repair, car repair or service, household move) were characterized by the locus of risk being in the product itself. In contrast, customized services with a high degree of consumer involvement (for example legal advice, medical diagnosis, restaurant meal) and standardized services and convenience goods (for example toothpaste, fruit juice, dry cleaning, photographic developing) were characterized by the locus of risk in the specification of the product.

Venegas (1990) replicated this study for office supply products, Kellen (1990) for hospital in-patient services and Anderson (1991) for computer goods, services and strategic software. In all cases, locus of risk emerged as a key discriminator among the products studied and the importance of specification risk was confirmed. Cambitzi (1991) replicated and extended the Ewels (1989) study by incorporating additional hypotheses that discriminate between goods and services based on consumer behaviour theory and qualitative research input. As far as risk was concerned, these studies confirmed Ewels' (1989) findings.

Bendixen (1991) consolidated these results to develop the consumer evaluation model illustrated in Figure 1. The pure goods segment is characterized by products having high degrees of search qualities and hedonistic utility. The evaluation process includes the use of price, brand name and store name as indicators of quality. Specification and ego risk are also characteristic of this segment. Typical products include durable and semi-durable products such as new car, furniture, television set, car tyres, suitcase, clothing.

The grudge purchase segment is characterized by functional utility and a high level of search qualities as well as a high degree of conventional (performance and physical) risk.

Typical products include a used car, household move, television repair and car service. The pure service segment is characterized by high degrees of credence qualities and functional utility. The evaluation process encompasses the appearance of premises and staff as well as the presence of other consumers as indicators of quality. There is a reluctance by the consumer to change supplier or try anything new as well as a feeling of little choice of alternative suppliers. Word of mouth recommendation is key to decision-making. Typical products include legal advice, medical diagnosis, nursery

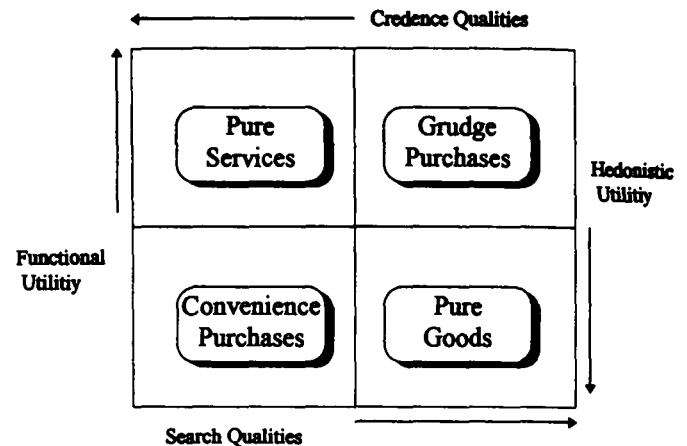


Figure 1 Consumer evaluation model

school care, banking and life insurance. The convenience purchase segment is characterized by high degrees of credence qualities and hedonistic utility. Convenience, consideration of 'doing it yourself' and post-purchase evaluation are important aspects of the consumer evaluation process. Typical products include a mixture of goods and services such as toothpaste, fruit juice, dry cleaning and photographic development and printing.

Based on the research cited, the following propositions are posited:

- Proposition 1: Financial, ego, performance, psychological/emotional, physical danger, time, specification and loss of control are distinct elements of perceived risk.
- Proposition 2: Different categories of products are characterized by different types of risk. A simple categorization of products as goods or services is insufficient in this regard.

Roselius (1971) identified eleven risk reduction methods used by consumers:

- endorsements;
- brand loyalty;
- major brand image;
- free sampling;
- store image;
- shopping around;
- word of mouth;
- money back guarantee;
- expensive model;
- private testing; and
- government testing.

Guseman (1981) adopted the risk reduction techniques developed by Roselius (1971) with a view to test the hypothesis that different risk relievers are used by consumers for goods rather than for services. He found that when purchasing services, consumers were more likely to use the most conveniently located store and use reference groups for goods. Consumers were also less likely to seek information from the store and shop around when purchasing services.

Based on these findings, the following additional proposition is posited:

- Proposition 3: Consumers use different risk reduction techniques when buying goods than when buying services.

### Research methodology

In order to test these three propositions, a two-staged study was conducted. In the first stage, in-depth interviews were conducted with a quota sample of 15 female and 15 male adults. The Kelly repertory grid technique (see Fransella & Bannister, 1977) was applied to identify the types of risk perceived by consumers. Respondents were presented with a triad of products with which they were familiar and asked to select the one that was most different from the other two in terms of perceived risk on purchasing. The description of why this product was different and what the other two products had in common yielded the underlying constructs of perceived risk. This technique was supplemented by asking respondents to describe the worst outcome scenario when purchasing each product. Respondents were also asked to describe what they could do and what they believed the marketer of the product could do to avoid any such outcome. The list of products (goods and services) is presented in Table 1.

Analysis of the responses confirmed the following aspects of perceived risk, all of which are mentioned in the literature:

1. overall risk;
2. financial risk;
3. ego risk;
4. performance risk;
5. psychological risk;
6. physical danger;
7. risk of wasting time; and
8. specification risk.

In addition, the risk of 'loss of control' by the consumer was identified as another potential dimension of perceived risk (designated risk number 9). This type of risk was associated with the services of a haircut and a restaurant meal.

**Table 1** Key to products

Services		Goods	
BA	Banking	CL	Clothing
CC	Credit card	CT	Car tyres
CS	Car service	FJ	Fruit juice
DC	Dry cleaning	FU	Furniture
HC	Haircut	NC	New car
HS	Hotel service	SC	Suitcase
HM	Household move	TP	Toothpaste
LA	Legal advice	TV	Television
LI	Life insurance	UC	Used car
MD	Medical diagnosis		
NS	Nursery school		
PD	Photo developing		
RM	Restaurant meal		
TR	Television repair		

The questions relating to risk reduction strategies were analysed with a view to extract underlying themes. The following constructs emerged from this analysis:

1. brand loyalty reduces risk;
2. supplier image/physical evidence reduces risk;
3. risk is reduced by recommendations from friends;
4. a demonstration or trial reduces risk;
5. communicating my needs helps to reduce risk;
6. encouragement from the supplier to communicate reduces risk;
7. if I do my homework my risk is reduced;
8. supplier providing information reduces risk, and
9. professionalism/supplier expertise reduces risk.

In addition, service quality was alluded to in several interviews. Thus, for the purposes of the second stage of the research, this list was supplemented with statements reflecting the five dimensions of service quality identified by Parasuraman, Zeithaml & Berry (1986), namely tangibles, reliability, responsiveness, assurance and empathy. The statements used were as follows:

10. appearance and manner of staff reduce risk (tangibles);
11. appearance of the facilities reduces risk (tangibles);
12. dependability, accuracy and consistency reduce risk (reliability);
13. staff who provide prompt action reduce risk (responsiveness);
14. staff who convey trust and confidence reduce risk (assurance); and
15. caring, individualized attention reduces risk (empathy).

In the second stage of the study, personal interviews were conducted with a quota sample of 60 female and 60 male adults in the Johannesburg area. Each of the nine components of risk and fifteen risk reduction strategies identified in the first stage of the research were converted into statements, for example for loss of control risk, the following statement was used: 'When deciding to purchase the following, I feel concerned as I am not in control of the outcome'.

Respondents were asked which of the 23 products listed in Table 1 (or none of these products) they associated with each statement.

The matrices of frequencies of product associations with the risk statements and the risk reduction strategies were each subject to correspondence analysis (Greenacre, 1984) and chi-squared trees analysis (Greenacre, 1988).

Hoffman & Franke (1986: 213) describe correspondence analysis as an exploratory data analysis technique that 'scales the rows and columns of a rectangular data matrix in corresponding units so that each can be displayed graphically in the same low-dimensional space'. Technically, the technique 'can be classified as a compositional technique because it relies upon the association, for purposes of perceptual mapping, between objects and some form of descriptive characteristics' (Hair, Anderson, Tatham & Black, 1992: 340).

In chi-squared trees analysis, the same contingency table is explored for homogeneity between its rows (or columns). This is achieved by seeking which combination of two rows (or columns) of the original data matrix results in the smallest change in the total chi-squared statistic. A small change in this statistic implies a similarity in the profiles of the

combined rows (or columns). This procedure is repeated until the matrix is reduced to a single row (or column). The joining process is mapped on a dendrogram and the joining distance taken as the change in overall chi-squared statistic resulting from the combination of the two rows (or columns). In this way, clusters of rows (or columns) with similar profiles can be ascertained. When used in conjunction with correspondence analysis, the association between clusters of rows (for example descriptive characteristics) and clusters of columns (for example objects) can be made.

These analyses are appropriate for the identification of and description of the nature of any associations between the products and the components of risk and the products and risk reduction strategies. The risk reduction strategies were superimposed as supplementary points in the risk component space to establish whether there was any association between these two variables.

## Results

### Components of risk

An initial correspondence analysis run on the frequency matrix of components of risk and products indicated that the risk of physical danger was strongly associated with 'none of these' products. This strong association is sensible in light of the products chosen. These items had principal co-ordinates of -1 132 and -967 on the first axis with contributions of 48.1% and 53.7% respectively. These values suggest that these elements of the frequency matrix were outliers (Hoffman & Franke, 1986) and were therefore suppressed in subsequent analyses. The results of a subsequent correspondence analysis run are presented in Table 2.

The dendrograms from the chi-squared trees analysis of this data are presented in Figures 2 and 3. At a 5% level of significance, the dendrogram of products indicates that there are four, possibly five, distinct groupings while the dendrogram of the components of risk indicates four distinct risk groupings. The relative positioning of the risk components and products in the three axis correspondence analysis solution allows for the determination of which product grouping is associated with which risk component grouping.

The strongest grouping is for those products associated with ego risk, namely toothpaste, furniture, suitcase and clothing. These products may be purchased by consumers for both functional purposes as well as an overt display of the image that they wish to project. It is interesting that all of the products associated with ego risk are goods.

Products such as a used car, a household move or a credit card are associated by consumers with an overall and financial risk. Overall and financial risk are associated with a mixture of goods and services that typically involve, directly or indirectly, items of high value.

Products such as medical diagnosis, nursery school care, legal advice, haircut and life insurance are associated with psychological and specification risk – consumers are uncomfortable with the fact that they may not acquire what they want or need partly as a result of their own inability to specify their needs. This class of risk appears to be associated only with services requiring professional or specialized skills or knowledge.

Forcing a five group solution of the results of the correspondence and chi-squared trees analysis separates loss of control risk as being associated with photographic developing, dry cleaning, television repair and car service. It is interesting to note that this distinctive class of risk is associated with only equipment-based services.

The last grouping is the association of performance and time risk with products such as banking, new car, television, car tyres, hotel service, fruit juice and a restaurant meal. This group of products is also a mixture of goods and services that appear to be characterized by standardization and strong branding.

These results are summarized in Table 3. It is apparent that Proposition 1 is not supported by the empirical evidence gathered in this study as only five distinct components of risk are indicated. However, the results do support Proposition 2. While some of the product/risk groupings are distinctly goods or services, others are hybrids of these two broad categories of product.

### Risk reduction strategies

The results of the correspondence and chi-squared trees analyses applied to the frequency matrix of risk reduction strategies and products are presented in Table 4 and Figures 4 and 5 respectively.

Both risk reduction strategy and product dendrograms indicate the presence of five distinct clusters at a 5% level of significance. The relative positioning of the risk reduction strategies and products in the three axis correspondence analysis solution allows for the determination of which product grouping is associated with which risk reduction strategy grouping.

The most striking grouping is for the goods new car, used car and television for which demonstration and trial is perceived to be the appropriate risk reduction strategy. Another grouping is for consumer goods (toothpaste, fruit juice) where brand loyalty, supplier image and physical evidence are the associated risk reduction strategies.

Financial service products, such as banking, credit card and life insurance, group together. Consumers doing their homework from information provided by the supplier is seen to reduce risk for these services. A large group of services such as household move, nursery school, medical diagnosis, legal advice, haircut, hotel service and restaurant meal are grouped together. Recommendations from friends, tangibles (staff and facilities), responsiveness and caring, individual attention are perceived as reducing risk for this group.

**Table 2a** Output of correspondence analysis

(a) Eigenvalue report			
Axis	Eigenvalue	Individual %	Cumulative %
1	0.08878	41.94	41.94
2	0.04720	22.30	64.24
3	0.04442	20.99	85.23
4	0.01593	7.53	92.75
5	0.00718	3.39	96.15
6	0.00440	2.08	98.22
7	0.00376	1.78	100.00
Total	0.21166	-	-

**Table 2b** Detail report – products

Label	Wght	Co-ordinates			Contributions			Squared correlations		
		F1	F2	F3	CTRI	CTR2	CTR3	COR1	COR2	COR3
HM	65	214	-184	-243	33	47	86	274	210	366
BA	48	86	155	170	4	24	31	57	185	223
MD	65	92	-475	304	6	309	134	25	653	267
NS	31	-111	-308	261	4	63	48	45	343	245
LA	62	134	-100	114	13	13	18	236	130	170
UC	118	102	9	-287	14	0	218	98	1	779
NC	61	-285	33	-89	56	1	11	713	10	70
TV	30	-56	293	59	1	56	2	28	758	31
CT	28	58	215	147	1	27	14	38	516	243
HC	58	-322	-259	170	68	83	38	431	280	121
DC	25	325	304	174	30	50	17	383	335	109
HS	37	-6	321	176	0	80	26	0	542	164
TP	4	-285	335	-13	4	10	0	145	201	0
FU	21	-716	118	-299	123	6	43	806	22	140
FJ	7	75	261	-65	0	10	1	28	331	21
SC	5	-938	496	37	54	29	0	693	193	1
CL	29	-1122	-42	-190	415	1	24	951	1	27
PD	37	158	370	254	11	109	55	93	513	242
CC	31	336	-107	-528	39	7	193	271	27	668
RM	54	-211	170	161	27	33	31	394	258	229
TR	50	256	67	43	37	5	2	690	48	20
LI	45	48	-171	-68	1	28	5	36	457	71
CS	88	243	67	-391	59	8	3	814	62	21

Note: all numbers were multiplied by 1000.

**(c) Detail report – risks**

Label	Wght	Co-ordinates			Contributions			Squared correlations		
		G1	G2	G3	CTRI	CTR2	CTR3	COR1	COR2	COR3
Overall	140	224	-54	-199	79	9	124	341	20	268
Financial	128	257	-67	-376	95	12	408	273	18	584
Ego	108	-792	12	-186	767	0	85	944	0	52
Performance	203	-16	270	96	1	313	42	3	740	94
Psychological	96	-26	-435	169	1	384	62	3	767	116
Time	63	121	244	159	15	140	64	90	366	156
Specification	151	-104	-323	308	8	139	134	42	399	363
Loss of control	30	136	-34	155	32	4	82	281	17	365

Note: all numbers were multiplied by 1000.

A mixed group of durable or semi-durable goods (furniture, car tyres, suitcase and clothing) and equipment-based services (dry cleaning, photographic developing, television repair and car service) are grouped together. Communication by the consumer, encouragement to do so by the supplier, supplier expertise and dependability are the associated risk reduction strategies for this group. This gamut of strategies all appear to be aimed at substituting for demonstration or trial which is not easily achieved for this group of products.

The results relating to risk reduction strategies are summarized in Table 5 from which it is clear that a simple categorization of products into goods and service is insufficient to

identify appropriate risk reduction strategies. This is a clear contradiction of Proposition 3.

The data collected for the components of risk and the risk reduction strategies have the products in common. Thus, correspondence analysis can be used to examine if there is any association between the type of risk and risk reduction strategy by using the one set of variables as supplementary to the other (Hoffmann & Franke, 1986). When this analysis was performed, the positioning of risk reduction strategies in risk space (or *vice versa*) was rendered meaningless by the very low quality of representation of the supplementary variables (typically 20% or less). This implies that risk reduction strategies are product specific and not risk specific.

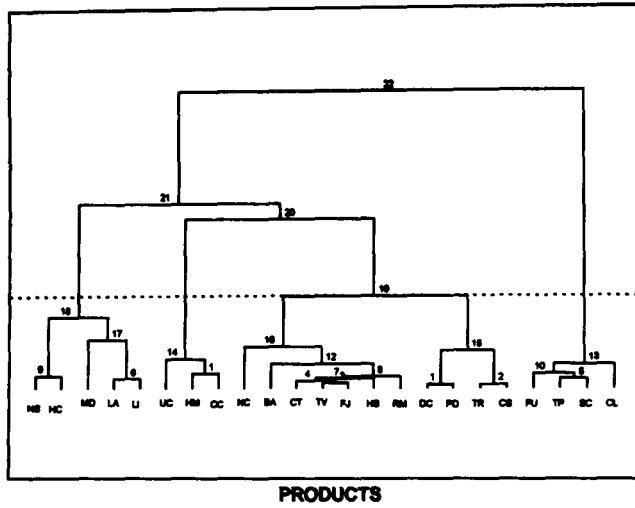


Figure 2 Dendrogram for 'products' resulting from the  $\chi^2$  trees analysis of the components of risk matrix

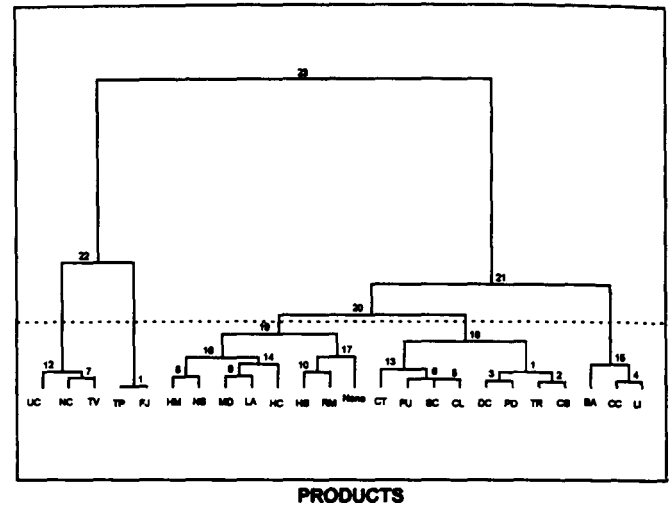


Figure 4 Dendrogram for 'products' resulting from the  $\chi^2$  trees analysis of the risk reduction strategies matrix

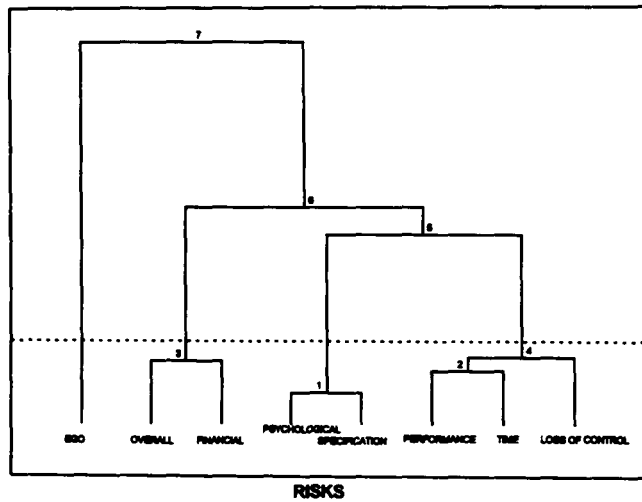


Figure 3 Dendrogram for 'risks' resulting from the  $\chi^2$  trees analysis of the components of risk matrix

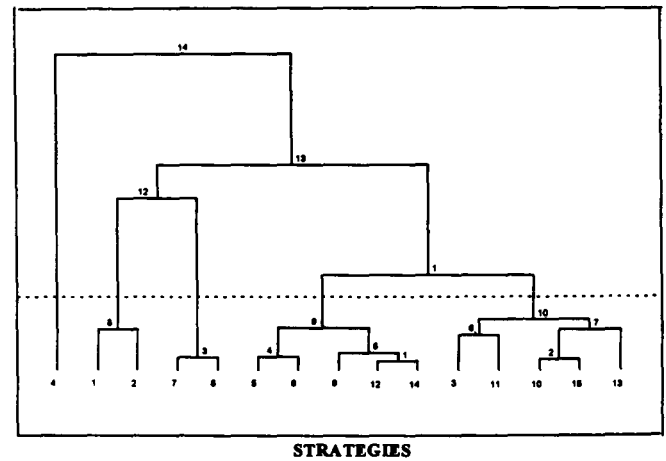


Figure 5 Dendrogram for 'strategies' resulting from the  $\chi^2$  trees analysis of the risk reduction strategies matrix

Table 3 Product/risk groupings

Characteristic risk	Characteristic products
1 Ego	Image enhancing goods
2 Overall and financial	Goods or services having a high value
3 Psychological/emotional and specification	Services demanding professional or specialized skills or knowledge
4 Loss of control	Equipment-based services
5 Performance and time	Standardized goods or services

**Conclusions**

**Implications for management**

The findings of this study have some important implications for management. Firstly, two new components of risk have been uncovered, namely specification risk and the risk of loss of control.

Specification risk is associated with those services demanding professional or specialized skills or knowledge (such as medical diagnosis, legal advice, life insurance, nursery school care and a haircut). An understanding that buyers of this cate-

Table 4a Output of correspondence analysis

(a) Eigenvalue report			
Axis	Eigenvalue	Individual %	Cumulative %
1	0.04022	39.31	39.31
2	0.01953	19.09	58.40
3	0.01757	17.17	75.57
4	0.00659	6.44	82.01
5	0.00634	6.20	88.21
6	0.00366	3.58	91.79
7	0.00307	3.00	94.79
8	0.00186	1.82	96.61
9	0.00108	1.05	97.66
10	0.00088	0.86	98.53
11	0.00066	0.64	99.17
12	0.00042	0.41	99.58
13	0.00026	0.25	99.84
14	0.00376	0.16	100.00
Total	0.10232	-	-

gory of services have difficulty in identifying what it is that they want or need, points to the need for an emphasis being

**Table 4b** Detail report – products

Label	Wght	Co-ordinates			Contributions			Squared correlations		
		F1	F2	F3	CTR1	CTR2	CTR3	COR1	COR2	COR3
HM	49	-58	83	51	4	17	7	83	168	65
BA	64	-156	114	110	39	43	44	318	171	157
MD	56	-215	-11	-55	64	0	10	641	2	42
NS	48	-117	36	-70	16	3	13	356	33	127
LA	56	-171	89	46	40	23	7	567	155	41
UC	68	351	107	-209	207	39	167	669	62	236
NC	64	333	137	-73	176	61	19	789	133	38
TV	46	386	-3	-10	172	0	0	963	0	1
CT	38	110	-18	182	11	1	71	198	5	540
HC	43	-209	-59	76	46	7	14	359	28	48
DC	26	-105	-163	-19	7	36	1	149	361	5
HS	51	-228	-82	-135	65	17	53	474	62	168
TP	16	364	-484	333	52	191	101	273	485	230
FU	33	84	-87	29	6	13	2	192	206	24
FJ	15	315	-461	314	38	168	87	232	496	231
SC	15	22	-136	167	0	15	24	4	159	239
CL	29	-9	-167	88	0	42	13	1	392	109
PD	29	45	-127	-22	1	24	1	26	213	6
CC	31	-12	259	231	0	106	94	1	495	396
RM	54	-170	-139	-154	38	53	72	323	215	265
TR	41	-45	-31	4	2	2	0	58	27	1
LI	59	-72	202	186	8	122	115	61	475	402
CS	60	-57	-52	-83	5	8	23	107	90	226
None	10	31	-122	-320	0	8	61	2	36	251

Note: all numbers were multiplied by 1000.

## (c) Detail report – risks

Label	Wght	Co-ordinates			Contributions			Squared correlations		
		G1	G2	G3	CTR1	CTR2	CTR3	COR1	COR2	COR3
Brand loyalty	84	175	-270	240	63	312	273	193	437	344
Supplier image	64	125	-197	38	25	127	5	174	433	16
Recommendation	57	-82	-72	-167	10	15	90	84	65	344
Demonstration	33	862	59	-351	619	6	235	843	4	140
Communicate needs	80	-98	47	36	19	9	6	254	59	35
Encouragement to communicate	67	-54	22	52	5	2	10	86	14	78
Do homework	62	163	285	80	41	257	22	199	606	47
Supplier information	70	95	205	174	16	151	121	102	473	341
Expertise	92	-38	66	68	14	21	24	167	121	129
Appearance/manner of staff	62	-215	-3	-105	71	0	38	577	0	136
Appearance of facilities	62	-46	-169	-138	3	91	67	25	336	224
Dependability	72	-68	2	-25	8	0	2	129	0	17
Prompt action	51	-145	-4	-140	27	0	57	187	0	174
Trust and confidence	83	-32	43	1	2	8	0	52	92	0
Caring, individualized attention	62	-225	20	-116	77	1	47	600	5	161

Note: all numbers were multiplied by 1000.

placed on the interaction process with the customer. This is consistent with the relationship marketing paradigm put forward by Grönroos (1991; 1994).

The risk of loss of control is associated with equipment-based services (such as a car service, television repair, dry cleaning and photographic developing). An understanding



**Table 5** Product/risk reduction strategy groupings

Characteristic strategy	Characteristic products
1 Trial or demonstration	Durable goods
2 Brand image	Consumer goods
3 Information search	Financial services
4 Tangible evidence, responsiveness and recommendation	General services
5 Communication and expertise	Goods and equipment-based services where demonstration is possible

that buyers of this category of services need reassurance that the necessary technological expertise is available again points to the need for an emphasis on the customer interaction process and relationship marketing. While loss of control has not previously been identified as a specific class of risk, Armistead (1989) identifies that 'feelings of being in control' are part of the 'steering' dimension of customer service. This link between perceived risk and customer service implies that the successful management of this risk is likely to be directly reflected in customers' perceptions of the quality of service provided.

This study provides further empirical evidence that a simple classification of products in terms of goods and services is inadequate. In terms of risk and risk reduction strategies, there are classes of goods, classes of services and hybrid classes of goods and services. Also, risk reduction strategies tend to be product specific and not risk specific. Management should thus be wary of following generic marketing strategies that are based on either the simple categorization of products into goods or services, or, generic risk reduction strategies based on type of risk.

#### Implications for future research

From the summarized results presented in Table 5, it is interesting to note that the risk reduction strategies of trial/demonstration, brand image, the provision of tangible evidence, information search and the communication of expertise are readily addressed by the promotional element of the marketing mix (Borden, 1964). However, being responsive to customers and relying on the recommendations of others require marketing efforts that are not readily incorporated into the traditional elements of the marketing mix. Relationship marketing (Grönroos, 1991; 1994) represents a more meaningful approach to the development of these types of risk reduction strategies as well as the management of specification and loss of control risks. This indicates the need for the development or updating of the 4P marketing framework (usually attributed to McCarthy, 1960) into a richer paradigm that specifically recognizes services and hybrid products.

Although this exploratory study was conducted using a limited set of products and using relatively small and geographically restricted samples, some useful insights have resulted. Future research could confirm these findings for different product sets using larger samples based on a wider geographical base.

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