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Marketing Channels and Underwriting Service Quality of Life Insurance

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A B S T R A C T

This paper investigates the relationship between marketing channels and underwriting service quality with focus on two major channels: salesperson and bancassurance. Based on the data of life insurance in Taiwan, the empirical analysis shows that the traditional salesperson channel has competitive advantages in underwriting service quality. This result supports the coexistence of salesperson and bancassurance because previous literature indicated bancassurance more cost-efficient than a salesperson. The empirical result shows that insurers with more dependence on salesperson channel present lower complaint ratio and higher contract persistency due to better service quality. The empirical result also indicates that service quality has a significantly positive impact on insurer's reputation. This finding implies that the insurers with more dependence on bancassurance should take additional competitive strategies to maintain the long-term customer relation.

Keywords: insurance marketing, bancassurance, salesperson, service quality, corporate reputation

I. Introduction

Several countries passed new laws to permit the integrated operations due to the trend of liberalization in financial markets. For example, the Gramm-Leach-Bliley-Act passed in the U.S. in the year 1999 allowed the financial institutions to combine business of banking, insurance, and securities. Taiwan following the global trend, enacted the Financial Holding Company Act in 2001 which facilitated the expansion of business in the financial institutions. The liberalization of financial market provokes the renovation in regulations and products, from both consumer and supplier sides. The internet technology has reduced the searching cost for consumers in shopping financial products. For certain life insurance products, consumers can shop on-line directly without contacting any salespersons. On the other side, financial institutions intend to increase profits through integrating business, such as cross-selling of insurance products by banks.

Insurance marketing traditionally relies on the solicitors who are employees of insurance companies, brokerage, or agency because insurance products require intensive service. Different marketing channels may present competitive advantages in cost saving or business volume. For example, direct marketing through telephone or other media can reduce the commission expenses, but the employed salespersons may have advantages in maintaining customer relation and selling complicated products with large premiums.

Bancassurance is a new form of marketing in the history of the insurance business, compared to the salesperson channel. Bancassurance is one of the most important renovations in financial market during the process of liberalization. The early development of bancassurance

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began in the European market in 1980's and then followed by other areas in the world during the past 30 years. In Taiwan, the expansion of bancassurance has been fast and prominent since it was permitted in the market in 2002. Life insurance marketing in Taiwan traditionally relies on the employed salespersons of the insurers, but it has changed dramatically in recent years. As shown in table 1, the market share of the premium incomes of new business through bancassurance expands to more than 50% in 2013 and becomes the primary marketing channel for life insurance.

The definition of bancassurance is not unique. Initially, it refers to selling insurance products through banks, but recently this term can be referred to all kind of cooperation between banks and insurers. Staikouras (2006) considers bancassurance is simply a distribution channel to sell insurance. However, some literature regards bancassurance as a cooperation or cross-selling between banks and insurers. Klein (2001) and Swiss Re (2007) both regard bancassurance as the cooperation of banks and insurers to provide insurance products to the bank's customers.

From the viewpoint of strategic management, bancassurance can be interpreted as an integration of business strategies to compete in the financial market because it may increase consumer's satisfaction as well as financial institution's value. Shah and Salim (2011) indicate that bancassurance can raise a bank's revenues in addition to interest incomes. Gonulal, Goulder and Lester (2012) argue that bancassurance is an effective approach for the insurers to increase their business. On the other hand, Beltratti and Corvino (2008) consider that banks and insurance companies maintain structural differences in the demographic issues, the composition of liabilities, and the scale of operations, so as to limit the extent of convergence.

In insurance terminology, marketing is equivalent to production (Webb et al., 1984) and is a critical process in insurance operations. A right marketing channel is definitely crucial for an insurer to compete in the market. The evidence of the fast expansion of bancassurance implies certain advantages for this channel, compared with the traditional approaches. The possible advantages of bancassurance include (1) expanding the potential insurance consumers, (2) reducing an insurer's marketing cost, and (3) increasing consumer's satisfaction in wealth management.

Conceptually bancassurnace seems beneficial to consumers, insurers, and banks (Bryan, 1997), but the empirical evidence is diverse due to its short history in the market. Okeahalam (2008) suggests that bancassurance may reduce service fees and prices. However, Maenpaa and Voutilainen (2011) do not support the trend of one-stop shopping because they find small and medium-sized enterprise (SME) customers tend to acquire banking and insurance services from separate providers.

In practice, insurance products require intensive service due to the complicated contract terms and pricing factors. Consumers usually do not shop the products voluntarily but are persuaded to buy them because they cannot understand the insurance contracts. Therefore the underwriting service quality is critical for consumers to purchase insurance products. Constantinescu (2012) studies the influence of bancassurance on the service quality and suggests

Table 1. Market Share of 1st-year Premiums from Various Distribution Channels.

Year	Salesperson[1] (%)	Bancassurance (%)	Mail Order[2] (%)	Agency and Broker (%)	Total (%)
2006	58.6	35.7	1.0	4.70	100.0
2007	60.7	34.4	0.8	4.10	100.0
2008	48.2	47.8	0.7	3.30	100.0
2009	31.0	65.4	0.6	3.00	100.0
2010	28.8	68.0	0.6	2.60	100.0
2011	39.0	57.0	1.0	3.00	100.0
2012	39.0	56.0	1.0	4.00	100.0
2013	38.0	57.0	1.0	4.00	100.0

Source: Taiwan Insurance Institute.
Notes: 1. Salesperson: insurance solicitors employed or contracted by the insurers. 2. Mail Order: telephone, the internet, newspaper and other media.

that the advantages of bancassurance depend on several factors, including the partners' size, the applicable regulations, the development of the market, and the institutional model of partnership. Therefore there is no guarantee for bancassurance to be successful. We need more studies about the impact of marketing channels on the service quality in insurance underwriting.

The purpose of this paper is to investigate the effect of marketing channels on the underwriting service quality of life insurance in Taiwan, with emphasis on two major channels: salesperson and bancassurance. Because consumers usually are persuaded to buy insurance instead of shopping automatically, the solicitor's service and knowledge are critical for their purchase decisions. It is interesting to study the competitive advantages of traditional salesperson channel when facing the new challenges of bancassurance. In practice, underwriting service quality is strongly associated with consumer's complaints, contract persistency, and insurer's reputation. Bennett and Gabriel (2001) indicate that service quality has an important contribution to a long-term relationship and customer trust which is critical for retaining business and corporate reputation.

Bryan (1997) suggests that bancassurance can contribute to insurers' operational efficiency due to the reduction in commissions. However, a more concerned issue is whether bancassurance reduces underwriting service quality due to the reduction in expenses. Traditionally insurance marketing requires intensive customer service and professional knowledge of insurance products. Nowadays consumers can search product information easily through internet technology, which may reduce the need for salesperson's service. If this is true, then bancassurance will become even more popular. Otherwise, traditional channel of salespersons can coexist in the market.

This paper applies means test, multiple regression and factor analysis, with the data of life insurance in Taiwan during 2004-2013 to study the relationship between marketing channels and underwriting service quality. The empirical result suggests that salespersons have a competitive advantage in underwriting service quality, but bancassurance is more cost efficiency. This evidence supports the coexistence of salesperson and bancassurance. Because good service quality can help maintain long-term customer relationship and consequent business, while lower underwriting expense can increase profitability, each channel presents certain competitive advantages in the market. The empirical result also indicates that service quality has a significantly positive impact on corporate reputation which is a critical factor for insurance purchase decision. The finding of this paper implies that the insurers with dependence on bancassurance for marketing products should take additional strategies to maintain long-term customer relation.

The remainder of this paper is organized as follows. Section II reviews the previous literature and develops the testing hypotheses. Section III presents sample data and research methodology. The empirical findings are discussed in section IV, and then the conclusions are provided in section V.

II. Literature Review and Hypotheses Development

The marketing channel adopted by an insurance company usually depends on its business policies. When the consumer protection is more concerned by an insurer, the more resources will be allocated to improve underwriting service quality. Since service quality and its cost may vary with different marketing channels, an insurer usually chooses the marketing channel which is best fit the business objective. Life insurers in Taiwan traditionally sell insurance products through their own employed (or contracted) salespersons. Brokers and agencies (B&A) are not important marketing channels due to the geographical reason. Every year insurance companies recruit many solicitors and then provide them job training and continuing education to sell insurance. However, the rise of bancassurance has changed the distribution of insurance products. The underlying reasons for the insurers to shift marketing channels are unknown. It may result from the insurer's new business policy, or it can be simply due to market competition. No matter what reasons, bancassurance grows fast in the past decade in Taiwan, which implies there exist certain advantages in this new marketing channel. This paper intends to compare the competitive advantages of marketing channels rather than to investigate the background for shifting.

As indicated by Bryan (1997), bancassurnace may improve the cost inefficiency in life insurance market. The traditional salesperson channel usually incurs huge acquis-

ition cost due to the sales commissions. Okeahalam (2008) suggests that bancassurance may reduce service fees and prices. Fields, Fraser, and Kolari (2007) find that bancassurance can provide positive gains for the shareholders. Swiss Re (2007) also suggests that bancassurance may reduce transaction cost for the consumers. According to the literature, it is expected that bancassurance can reduce underwriting expenses because of the reduction in providing service, compared to traditional salesperson channel. Thus the testing hypothesis is:

H1: Underwriting expenses increase (decrease) when insurers depend on more on salespersons (bancassurance) in marketing their insurance products.

Although cross-selling through bancassurance helps to expand insurance business, previous literature (Bryan, 1997) argues that underwriting service by banks cannot be as good as by salespersons because bank tellers lack the knowledge of insurance products. As most consumers are induced by the solicitors to demand insurance products, instead of shopping automatically, the solicitor's competence and selling tactics can influence service quality and buyers' perception of trust. Sandhu and Bala (2011) analyze the customers' evaluation of the service quality of life insurance and find that proficiency, physical and ethical excellence, and functionality is the top three important factors for evaluation. Since bank teller usually sells simple insurance products with limited knowledge, it is doubtful whether bancassurance can provide service with quality equivalent to the salespersons of insurance companies.

Kumar, Manjunath, and Shivashankar (2012) indicate that service quality implies customer's judgment regarding a product's overall excellence or superiority. Choudhury (2013) studies the relation between perceived service quality and customers' purchase intentions for banking products and finds that reliability is the crucial determinant. Insurance shopping is especially connected with the trust on insurers because it is an intangible product. Intensive service is always required in the underwriting process, and service quality is critical to insurance consumption decision.

Barrese, Doerpinghaus, and Nelson (1995) show that independent agencies provide better service for auto insurance than direct writers. Berger, Cummins and Weiss (1997) also suggest independent agencies have an advantage in service quality than the exclusive agents and employees. However, the service quality of bancassurance is still unknown yet due to the short history of this marketing channel. Therefore this paper tries to compare service quality between bancassurance and salesperson channel.[1] Since consumers' satisfaction will be higher for better service quality, their complaints about the insurers with good service are expected lower. Since salesperson usually can provide more service than a bank teller, the testing hypothesis is as follows.

H2: Consumers' complaints increase (decrease) when insurers depend on more on bancassurance (salespersons) in marketing their insurance products.

Dawkins and Reichheld (1990) consider that delivering quality service is an essential strategy for success in today's competitive business environment. Anderson, Fornell, and Lehmann (1994) define customer satisfaction as an overall evaluation based on the consumption experience with a good or service over time. It is believed that higher service quality can increase customers' trust on the product or its supplier, which is important for long-term buyer-seller relationship. Crosby, Evans, and Cowles (1990) argue that trust is a critical component of relationship marketing for the customers' future interaction with the salespersons.

Life insurance product itself has a long-term orientation in the buyer-seller relationship. The insurance contracts usually extend more than ten years. In insurance operations, selling insurance products can not guarantee the profitability for insurers because the acquisition cost in the early policy years may deplete the premiums. Only the persistent policies can generate profits for insurers through the continuing premium incomes and the consequent investment gains. Guenzi and Georges (2010) show that trust in the salespersons has a positive impact on a customer's intentions to re-buy. Holden (1990) suggests that salesperson characteristics (e.g., attitude and expertise), in addition to the product, can influence customers' trust on the supplier. Furthermore, Venetis and Ghauri

[1] According to table 1, the insurance business from other marketing channels such as B&A and mail order is trivial, and their data are unavailable. Therefore, the analysis only focuses on salesperson and bancassurance.

(2004) suggest that service quality has an important contribution to long-term relationship and customer retention. Therefore, if salespersons can provide better service, it is expected that insurers can retain more customers through this marketing channel. In insurance industry the long-term customer relation is usually measured by contract persistency. Therefore this paper tests the following hypothesis.

H3: Contract persistency increases (decreases) when insurers depend on more on salespersons (bancassurance) in marketing their insurance products.

Since the value of insurance product arises from the insurer's promise to pay benefits, consumers' trust and confidence on the insurer is a decisive factor in purchasing decision. To have trust or confidence, a new buyer may listen to the recommendation from his/her families or friends. Because insurance shopping is not as frequent as food shopping, consumers cannot learn a supplier through repeated purchasing experience. Usually, corporate reputation can influence customer's trust, as indicated by Bennett and Gabriel (2001). Therefore the recommendation from other people is not negligible for an insurer to obtain and retain customers. Vegholm (2011) shows that corporate reputation can help maintain marketing relationship with customers for the banks.

Lemmink, Schuijf and Streukens (2003) indicate that service quality is one of the influential factors for building corporate reputation. Since insurance underwriting always involves intensive service, service quality is crucial to the insurer's reputation and long-term relationship with customers. If marketing through salespersons is superior to bancassurance in service quality due to their expertise on insurance selling, the corporate reputation of insurers relying on salespersons must be better. That is, the service quality from salespersons will be more impressive to consumers than that from bancassurance, which in turn makes a reputation for the insurers. Therefore the testing hypothesis is:

H4: Corporate reputation increases (decreases) when insurers depend on more on salespersons (bancassurance) in marketing their insurance products.

III. Sample and Research Methodology

A. Sample and Data

The sample used for the empirical study includes the life insurance companies in Taiwan during 2004-2013, and the data are retrieved from several public sources. The data of marketing channels are collected from Risk Management and Insurance Magazine (RMIM)[2] and Taiwan Insurance Institute. The data to measure underwriting service quality include underwriting expense, complaint ratio, dispute ratio, and contract persistency, which are collected from Taiwan Insurance Institute and Financial Supervisory Commission. The data for firm characteristics and financial variables are retrieved from the annual reports of insurance companies.

The measurement of corporate reputation is represented by the ranking of "the most recommended" insurers surveyed by RMIM. Corporate reputation usually is regarded as a composite of understanding, perception, and belief about the activities of business. There is no unique measurement for corporate reputation in the literature, as summarized by Gatzert (2015). This paper follows Roberts and Dowling (2002), which uses "America's Most Admired Corporation" surveyed by Fortune magazine to represent corporate reputation. Therefore the ranking of "the most recommended insurers" surveyed by RMIM is used as the proxy for corporate reputation. RMIM surveys are based on a sample of around 1500 randomly chosen life insurance customers every year, with 95% confidence interval, and maximum sampling error is 2.5%. The customers evaluate the insurers based on ten aspects of their operations, including service after sales, efficient claim adjusting, honest operation, salesperson's quality, financial strength, insurance products, corporate popularity, social performance, no negative news, and affiliation to a financial holding company. The ranking is an integrated measurement and regarded as a sound and reliable index. It has been performed for more than twenty years (since 1993) and is well recognized in Taiwan insurance market.

[2] RMIM is the leading magazine of insurance in Taiwan, like A. M. Best Review in the US.

B. Research Methodology and Variables

In order to study the competitive advantages in service quality of different marketing channels for life insurance, this paper applies several analytical methods. First, this paper conducts Pearson correlation between the marketing channels and underwriting service quality. The variables to measure service quality include complaint ratios for loss-adjusting and other reasons, loss-adjusting dispute ratio, and contract persistency. Second, the insurers strongly relying on salespersons (bancassurance) to sell insurance products are compared with other insurers for their underwriting performance, based on t-test for means and Wilcoxon test for medians. That is, the insurers with more than 50% of the premium incomes of new contracts from salespersons (bancassurance) are compared with those relying on other channels to sell insurance.

Next, this paper applies OLS multiple regression analysis to investigate the effect of marketing channel on underwriting performance, including business expenses, service quality, and corporate reputation respectively. The OLS regressions may provide some insights for the impact of marketing channels. Since underwriting performance may be influenced by other firm characteristics as well as marketing channels, this paper selects some control variables for the firm characteristics such as organizational form and financial strength. The OLS models for the testing hypotheses are as follows.

$$lnExp_{it} = \alpha 1 + \beta 1 Channel_{it} + \Sigma \beta_j Firm Characteristics_{ijt} + \varepsilon_{it} \quad (1)$$

$$Satisf_{it} = \alpha 2 + + \lambda 1 Channel_{it} + \Sigma \lambda j Firm Characteristics_{ijt} + \nu_{it} \quad (2)$$

$$Repute_{it} = \alpha 3 + \varphi 1 Channel_{it} + \Sigma \varphi_j Firm Characteristics_{ijt} + \omega_{it} \quad (3)$$

In equation (1) dependent variable *lnExp* is the natural logarithm of business expense which is non-commission expenditure for insurance business and may influence underwriting service quality. The explanatory variable *Channel* is the percentage of premiums of new contracts from specific marketing channel such as salesperson (*Sales*), bancassurance (*Bank*), agency and broker (*Agency*), and mail order (*Mail*). In equation (2), the dependent variable *satisf* is consumer satisfaction measured by complaint ratios, dispute ratio, and contract persistency respectively. The complaint ratios *Cmplnt* is the number of total complaints to the number of policies. The total complaint ratio can be further distinguished into a complaint related to loss-adjusting *Coa*, and complaint not related to loss-adjusting *Cona*. Dispute ratio *Dispute* is the ratio of the number of lawsuits for loss-adjusting to the number of loss-adjusting applications. Contract persistency rates *P13* and *P25* are ratios of insurance policies remain effective after issued for 13 months and 25 months. Equation (3) is to investigate the relationship between insurer's corporate reputation *Repute* and marketing channel. The variable for corporate reputation *Repute* is measured by the ranking of "the most recommended insurers" surveyed by RMIM. Since the best insurer is ranked 1 and the worst is around 30[3], this paper transforms the rank to score by the formula, *Repute* = (30 - rank), to avoid the reverse relationship between reputation and other variables.

Higher underwriting service quality requires more business expenditure spent by the insurer. Consumers' complaints and contract termination frequently result from unsatisfied service quality which cannot be observed directly. Conceptually the effect of service quality on insurer's expense and consumers' satisfaction can be expressed as the following equations.[4]

$$lnExp_{it} = \mu 1 + \theta_1 Quality_{it} + \Sigma \theta_k factor_{ikt} + \varepsilon_{it} \quad (4)$$

$$Cmplnt_{it} = \mu 2 + \Psi 1 Quality_{it} + \Sigma \Psi_k factor_{ikt} + \varepsilon_{it} \quad (5)$$

$$P13_{it} = \mu 3 + \tau 1 Quality_{it} + \Sigma \tau k factor_{ikt} + \varepsilon_{it} \quad (6)$$

Then the latent variable *Quality* for the unobservable service quality can be extracted by way of factor analysis (Johnson and Wichern, 1998).

This paper considers the insurer's reputation as a final outcome of the overall underwriting performance. The marketing channel may result in different service quality. Consumers are not expected to recommend an insurer if they were not satisfied with that insurer, which implies

[3] The number of life insurers in Taiwan is about 28~30 during the years 2004-2013. The rank for the worst one is the number of insurers in that year.

[4] The variables for measuring consumer satisfaction with underwriting service in equation (2) includes six variables, *complnt*, *coa*, *cona*, *dispute*, *p13* and *p25*. However, *coa* and *cona* are components of *cmplnt*, and *p25* is highly related to *p13*. Besides, dispute may result from insurance contract itself instead of service quality. Therefore, only *complnt* and *p13* as well as *lnexp* are taken for factor analysis.

Table 2. Summary of the Sample Statistics

Variable	N	Mean	Std Dev	Minimum	Maximum
Sales	208	35.845	35.355	0	100.0
Bank	208	44.742	34.623	0	100.0
Agency	208	14.034	24.662	0	100.0
Mail	208	5.045	13.543	0	75.55
lnExp	293	7.094	1.260	3.562	9.978
Cmplnt	292	0.288	0.375	0	2.714
Coa	292	0.105	0.157	0	1.462
Cona	292	0.183	0.314	0	2.651
Dispute	290	0.021	0.048	0	0.645
P13	277	88.796	11.305	0	99.66
P25	271	81.757	13.257	0	99.67
Repute	287	15.185	8.217	0	29.0
Debtr	294	95.144	14.038	8.967	139.51
lnPremNC	296	14.994	3.304	0	19.255
FHC	318	0.160	0.368	0	1.0
FI	318	0.447	0.498	0	1.0

service quality related to the corporate reputation of an insurer. Thus this paper extends the empirical investigation to study following relationship.

$$Quality_{it} = \alpha 1 + \beta 1 Channel_{it} + \Sigma \beta j Firm Characteristics_{it} + \varepsilon_{it} \quad (7)$$

$$Repute_{it} = \alpha 2 + \lambda 1 Quality_{it} + \Sigma \lambda j Firm Characteristics_{it} + \nu_{it} \quad (8)$$

Several firm characteristics variables are selected based on previous literature. Debt ratio (*Debtr*) is an important measure for the financial strength of an insurer because consumers are always concerned with the solvency of insurance policy. The natural logarithm of premium incomes of new contracts (*lnPremNC*) is taken to measure the business size of an insurer.[5] There are two dummy variables for the organizational form of insurers. The first one is *FHC* to indicate an insurer being a subsidiary of a financial holding company in Taiwan, and *FHC*=1 if yes, otherwise=0. FHC background implies stronger financial strength and cross-selling opportunity due to the affiliated bank. The other dummy variable *FI* is to indicate an insurer owned by a foreign insurer with more than 50 % of equities, and *FI* = 1 if yes, otherwise = 0. Foreign insurers usually have smaller firm size and different marketing approaches. The definitions of variables are listed in the appendix. The summary of statistics for the sample used in the empirical analysis is listed in table 2.

[5] Instead of total assets, this paper takes premiums for the insurer size because premiums are more relevant to underwriting service. These two variables are highly correlated and thus should not be included together in a model.

IV. Empirical Results

Table 3 exhibits the Pearson correlations of marketing channels and the measurements of underwriting service quality. The result shows that business expense is positively related to salesperson but negatively related to the other three channels. This result is consistent with the outcomes of other quality variables. As expected, the more expense spent by an insurer usually implies the better service. The ratios of complaint and dispute are significantly and negatively related to the salesperson, while the contract persistency and reputation are significantly and positively related to salesperson. On the other hand, the Pearson correlations between quality measurements and bancassurance are opposite to those based on salesperson. Most of the correlations for the agency

Table 3. Pearson Correlation between Marketing Channel and Service Quality

	lnExp	*Cmplnt*	*Coa*	*Cona*	*Dispute*	*P13*	*P25*	*Repute*
Sales	0.487***	-0.261***	-0.207**	-0.199**	-0.139*	0.173*	0.189**	0.479***
	(<.001)	(<0.001)	(0.003)	(0.004)	(0.049)	(0.016)	(0.009)	(<.001)
Bank	-0.137*	0.154*	0.116	0.122+	0.111	-0.095	-0.115	-0.200**
	(0.050)	(0.028)	(0.100)	(0.082)	(0.117)	(0.190)	(0.115)	(0.005)
Agency	-0.409***	0.094	-0.011	0.120+	-0.022	-0.030	-0.054	-0.313***
	(<.001)	(0.183)	(0.873)	(0.089)	(0.760)	(0.677)	(0.462)	(<.001)
Mail	-0.179*	0.117+	0.264***	-0.005	0.118+	-0.194**	-0.131+	-0.216**
	(0.010)	(0.096)	(<0.001)	(0.940)	(0.094)	(0.007)	(0.071)	(0.002)

Correlation coefficients are listed with p-values in the parentheses. ρ(sales, bank) = -0.7021; ρ(sales, agency) = -0.287; ρ (sales, mail) = -0.289; ρ(bank, agency) = -0.384; ρ(bank, mail) = -0.022.
Significance levels: + p<0.1; * p<0.05; ** p<0.01; *** p<0.001. The correlations among the variables of underwriting service quality are omitted..

channel are insignificant although their signs are similar to those of bancassurance. The result for mail channel also similar to that of bancassurance, except for the insignificantly negative relation with the complaint ratio of non-adjusting (*Cona*).

The result of table 3 provides an initial insight that marketing channels do influence the underwriting service quality; however, their effects are unknown. This paper conducts a further compariso of service quality for the insurers with differentiated dependence on salespersons (bancassurance).[6] First, the insurers are separate into two groups based on their new business: less than 50% of the new business from salespersons, and otherwise. The result of table 4a, according to the t-test on means, shows that insurers with less than 50% of new business from salespersons present significantly worse service quality in all the measurements, such as higher ratios of complaint and dispute and lower persistency. Consequently, the reputation of the insurers relying less on salespersons is lower than that of the other group. The Wilcoxon tests on medians also indicate that there is a significant difference between the two groups of insurers in terms of business expense, complaint ratio, and corporate reputation between the two groups of insurers.

Table 4b is the comparison between the insurers with new business relying on bancassurance. The outcomes of t-test and Wilcoxon test are consistent. That is, the insurers with more than 50% of new business from bancassurance incur significantly lower business expense and higher complaint ratio. The contract persistency is also higher for the group of insurers with less bancassurance. Consequently, the reputation of the insurers with less dependence on bancassurance is higher than the other group. Although the differences in detailed complaint ratios, dispute ratio, and 13-month persistency are insignificant, they still show consistent signs. In general, these empirical evidences suggest that marketing channels can have a significant impact on the underwriting service quality and corporate reputation of an insurer.

The regression analyses for the relationship between underwriting service quality and marketing channels are shown in tables 5a and 5b for salesperson and bancassurance respectively. The result indicates marketing through salespersons has a significantly positive impact on business expense, but a negative impact if through bancassurance. This outcome supports hypothesis 1 that insurers may incur more business expense when relying on salespersons to distribute insurance products. The result implies that bancassurance does have competitive advantages in saving business expenses

The debt ratio is negatively related to business expense, which implies insurers with better financial strength can spend more in underwriting service. Premiums of new business have a significantly positive relation with business expense as expected because selling more contracts require more underwriting service. FHC background also is significantly and positively related to business expense, which probably is due to better financial strength. The background of FI does not have a significant relation to business expense. The results of tables 5a and 5b are consistent for these variables of firm characteristics.

The empirical result shows that the marketing channels

[6] The following paragraphs omit the discussions on agency and mail order because the market shares of these two channels are quite small (see table 1) and their impacts are insignificant.

Table 4a. Comparisons of Service Quality between Insurers - Salesperson

Variable	Sales<0.5 Mean (std.dev)	Sales≧0.5 Mean (std.dev)	t Value Pr> |t|	Wilcoxon Z Pr > |Z|
lnExp	6.7282 (1.0578)	7.9187 (1.1794)	-7.36*** (<.001)	6.61*** (<.001)
Cmpln	0.3039 (0.3841)	0.1525 (0.1053)	4.25*** (<.0001)	-2.64** (0.008)
Coa	0.1059 (0.1790)	0.0624 (0.0519)	2.61* (0.010)	-1.05 (0.295)
Cona	0.1979 (0.3216)	0.0901 (0.0770)	3.67*** (<.001)	-1.91+ (0.056)
Dispute	0.0253 (0.0646)	0.0130 (0.0139)	2.10* (0.037)	-0.92 (0.358)
P13	89.1253 (10.5009)	91.7086 (4.6429)	-2.35* (0.019)	1.50 (0.134)
P25	81.9969 (12.4939)	85.2759 (6.8438)	-2.34* (0.020)	1.54 (0.1232)
Repute	12.5426 (7.2532)	20.1972 (7.5017)	-7.06*** (<.001)	6.35*** (<.001)
Sample size	134	71		

Significance levels: + p<0.10; * p<0.05; ** p<0.01; *** p<0.001.

Table 4b. Comparisons of Service Quality between Insurers - Bancassurance

Variable	bank<0.5 Mean (std.dev)	bank≧0.5 Mean (std.dev)	t Value Pr > |t|	Wilcoxon Z Pr > |Z|
lnExp	7.3295 (1.3813)	6.9343 (1.0240)	2.34* (0.020)	-2.41* (0.016)
Cmplnt	0.2006 (0.2833)	0.3075 (0.3578)	-2.35* (0.020)	1.97* (0.049)
Coa	0.0742 (0.0749)	0.1093 (0.2003)	-1.62 (0.107)	0.418 (0.676)
Cona	0.1264 (0.2681)	0.1982 (0.2658)	-1.91+ (0.057)	1.938+ (0.053)
Dispute	0.0161 (0.0180)	0.0264 (0.0741)	-1.34 (0.184)	-0.869 (0.385)
P13	91.2126 (4.6423)	88.8756 (11.7075)	1.81+ (0.072)	-0.619 (0.536)
P25	84.7523 (7.0894)	81.5613 (13.6252)	2.01* (0.046)	-1.130 (0.259)
Repute	16.8447 (8.6373)	13.5773 (7.3695)	2.87** (0.005)	-2.861** (0.004)
Sample size	107	98		

Significance levels: + p<0.10; * p<0.05; ** p<0.01; *** p<0.001.

significantly influence the complaint ratios. The salesperson has a significantly negative impact on the complaint ratios, no matter the complaints are loss-adjusting related or not. On the other hand, bancassurance has a significantly positive relation with the complaint ratios. This evidence supports hypothesis 2 and suggests that salesperson provides better underwriting service. The opposite effect on complaints from the two marketing channels indicates the competitive advantages of salesperson in underwriting service. Most of the firm characteristics variables are not significantly related to complaint ratios, except for the FI background. The foreign insurers in Taiwan are

Table 5a. Regression Result for Underwriting Service Quality - Salesperson

	lnExp	*Cmplnt*	*Coa*	*Cona*	*Dispute*	*P13*	*P25*	*Repute*
Intercept	4.475***	-0.046	0.018	-0.064	0.026	88.247***	82.552***	11.946**
	(<.001)	(0.814)	(0.848)	(0.704)	(0.499)	(<.001)	(<.001)	(0.003)
Sales	0.014***	-0.003***	-0.001**	-0.002**	-0.0002	0.034*	0.045*	0.093***
	(<.001)	(<.001)	(0.003)	(0.003)	(0.124)	(0.055)	(0.035)	(<.001)
Debtr	-0.013**	0.003	0.006	0.002	0.0001	-0.041	-0.036	-0.192***
	(0.009)	(0.128)	(0.515)	(0.156)	(0.774)	(0.536)	(0.663)	(<.001)
lnPremNC	0.218***	0.005	0.002	0.003	-0.001	0.425	0.337	1.284***
	(<.001)	(0.543)	(0.573)	(0.691)	(0.566)	(0.298)	(0.504)	(<.001)
FHC	0.601***	-0.132*	-0.047	-0.084	0.015	1.242	0.690	0.6737
	(<0.001)	(0.044)	(0.128)	(0.132)	(0.188)	(0.504)	(0.763)	(0.592)
FI	0.087	0.142**	0.060*	0.082*	0.003	-5.916***	-7.684***	-3.298**
	(0.543)	(0.008)	(0.018)	(0.072)	(0.747)	(<0.001)	(<.001)	(0.002)
Adj-R2	0.5694	0.1361	0.0833	0.0684	0.0036	0.1523	0.1493	0.4966
F-value	54.95***	7.37***	4.67***	3.97**	1.14	7.90***	7.67***	40.27***
(p-value)	(<.001)	(<.001)	(<.001)	(0.002)	(0.338)	(<.001)	(<.001)	(<.001)
Sample size	205	203	203	203	202	193	191	200

Regression coefficients are listed with p-values in the parentheses. + p< 0.1; * p<0.05; ** p<0.01; *** p<0.001.

Table 5b. Regression Result for Underwriting Service Quality - Bancassurance

	lnExp	*Cmplnt*	*Coa*	*Cona*	*Dispute*	*P13*	*P25*	*Repute*
Intercept	4.851***	-0.106	-0.002	-0.104	0.017	90.557***	85.171***	13.802***
	(<.001)	(0.596)	(0.983)	(0.542)	(0.658)	(<.001)	(<.001)	(<.001)
Bank	-0.015***	0.002**	0.001*	0.002*	0.0001	-0.030	-0.037	-0.096***
	(<.001)	(0.001)	(0.022)	(0.010)	(0.159)	(0.1226)	(0.121)	(<.001)
Debtr	-0.019***	0.004*	0.001	0.003+	0.0002	-0.066	-0.066	-0.221***
	(<.001)	(0.048)	(0.323)	(0.075)	(0.561)	(0.337)	(0.435)	(<.001)
lnPremNC	0.308***	-0.010	-0.003	-0.007	-0.002	0.602	0.579	1.838***
	(<.001)	(0.234)	(0.459)	(0.324)	(0.196)	(0.136)	(0.248)	(<.001)
FHC	0.659***	-0.132*	-0.046	-0.086	0.015	1.158	0.497	1.090
	(<.001)	(0.049)	(0.145)	(0.132)	(0.194)	(0.537)	(0.830)	(0.398)
FI	0.159	0.135*	0.058*	0.077+	0.003	-5.924***	-7.729***	-2.806***
	(0.275)	(0.013)	(0.024)	(0.097)	(0.775)	(<.001)	(<.001)	(0.008)
Adj-R2	0.5614	0.1128	0.0660	0.0563	0.0016	0.1464	0.1399	0.4843
F-value	53.23***	6.14***	3.86**	3.41**	1.07	7.59***	7.18***	38.38***
	(<.001)	(<.001)	(0.002)	(0.006)	(0.381)	(<.001)	(<.001)	(<.001)
Sample size	205	203	203	203	202	193	191	200

Regression coefficients are listed with p-values in the parentheses. + p<0.1; * p<0.05; ** p<0.01; *** p<0.001.

smaller in asset size and employee number, compared with the domestic insurers. Instead of hiring salespersons, the foreign insurers usually rely on bancassurance, agency, and mail order to distribute their insurance products. Therefore it is not surprising that FI background is positively related to complaints.

The regression analysis for dispute ratio shows that neither marketing channels nor firm characteristics are relevant variables. This outcome probably arises from the unfitness of the model since the explanation power (adj-R2) is low and the F-value is insignificant. The lawsuits for loss adjustment are usually connected with insurance contracts and loss-adjusting judgment which are less relevant to marketing channels. Although theoretically, the solicitors may mislead the consumers in interpreting insurance contracts to pursue their sales commissions, this phenomenon is unusual in practice due to the regulation for twisting.

The marketing channel of the salesperson has a significantly positive impact on contract persistency, either *P13* or *P25*. This result suggests that salesperson has a contribution in maintaining customers which is probably due to better service. Since the effect bancassurance is negative but insignificant, it is hard to claim that more dependence on bancassurance will reduce contract persistency. Therefore, the empirical evidence supports hypothesis 3 that contract persistency increases with the dependence on salesperson; however, it does not significantly decrease with the dependence on bancassurance. This finding suggests that salesperson marketing has comparative advantages in maintaining customers, which probably arise from more intensive service and long-term relationship. The firm characteristics variable *FI* has a significantly negative impact on contract persistency, which is consistent with the result for complaint ratios. The policyholders may terminate the insurance contracts if they have more complaints. As indicated in the above, foreign insurers in Taiwan usually distribute their products through channels other than salespersons. This evidence reinforces the contribution of salespersons in maintaining customer relationship.

The regression result of insurer's reputation shows that reputation is significantly and positively related to salesperson but negatively related to bancassurance. Thus hypothesis 4 is supported. This finding is consistent with the previous cases since complaint ratios are lower (higher) for insurers relying on salespersons (bancassurance). In addition to marketing channels, the corporate reputation of insurers is also affected by the firm characteristics. The higher debt ratio implies weaker financial strength, and foreign insurers usually have smaller asset size. Therefore insurer's reputation is negatively related these two variables. Premiums for new business have a positive relation with corporate reputation because consumers prefer to buy insurance from the insurers with a good reputation. FHC background does not contribute to insurer's reputation even though the affiliation with banks implies better financial support.

In summary, the overall results suggest that marketing channel has a strong relation with underwriting service quality, and salesperson presents better outcome in quality measurements than bancassurance. Additionally, the insurer's reputation is influenced by the marketing channels because underwriting service quality is an important determinant of corporate image.

To further investigate the relationship between marketing channel and underwriting service quality, this paper applies factor analysis to draw the latent variable of service quality through business expense (*lnExp*), complaint ratio (*Cmplnt*), and contract persistency (*P13*). The standardized scoring coefficients for (*lnExp*, *Cmplnt*, *P13*) are (0.45049, -0.47902, 0.47867). The regression analysis of underwriting service quality (*Quality*) and marketing channels is shown in table 6. The result indicates that service quality has a significantly positive relation with the salesperson and a negative relation with bancassurance, which supports previous findings. Debt ratio has a negative impact on service quality which is probably due to the insufficient financial resource. Premiums for new business are positively related to service quality since consumers usually prefer insurers with better service. Service quality also related to organizational background. FHC background positively influences service quality as predicted because of the support from affiliated financial institutes. FI background negatively influences service quality because the foreign insurers are small-sized and relying on marketing channels other than salespersons.

To consider the combined effect of marketing channel and firm characteristics, the interaction terms are included in the regression models. The result in table 6 shows that the explanation powers (adj-R2) of the models with interaction terms increases just marginally. Due to multicollinearity, most of the variables are insignificantly related to service quality[7]. Therefore marketing channel itself can be a determinant of service quality and the interaction with other firm characteristics does not enhance or mitigate the quality.

Finally, this paper analyzes the relationship between corporate reputation and service quality to investigate the connection between marketing channel, service quality and insurer's reputation. The result in table 7 shows that service quality has a significantly positive impact on corporate reputation no matter under the channel of salesperson or bancassurance. The relationship between salesperson and reputation is significantly positive, and it is significantly negative under bancassurance, which is consistent with the findings in tables 5a and 5b. The effects of firm characteristics are similar to the previous result,

[7] The variance inflation factors (VIF) in model Ib for the variables *Sales*, *Sales*×*Debtr* and *Sales*×*lnPremNC* are 396.94, 211.30 and 109.772. Similar situation exists for the bancassurance channel.

Table 6. Regression Result for Underwriting Service Quality

	Quality Ia	*Quality* Ib	*Quality* IIa	*Quality* IIb
Intercept	-2.683** (0.002)	-1.822 (0.126)	-1.895* (0.028)	-4.220** (0.001)
Sales	0.010*** (<.001)	-0.017 (0.538)		
Bank			-0.010*** (<.001)	0.039 (0.131)
Debtr	-0.006 (0.255)	-0.007 (0.446)	-0.014* (0.012)	-0.001 (0.917)
lnPremNC	0.198*** (<.001)	0.154** (0.001)	0.251*** (<.001)	0.292*** (<.001)
FHC	0.330* (0.029)	0.214 (0.330)	0.335* (0.031)	0.565 (0.108)
FI	-0.315* (0.012)	-0.592** (0.001)	-0.306* (0.017)	0.430* (0.036)
Channel×Debtr		0.00002 (0.931)		-0.0003 (0.199)
Channel×lnPremNC		0.001 (0.134)		-0.001 (0.384)
Channel×FHC		0.002 (0.754)		-0.007 (0.197)
Channel×FI		0.007* (0.038)		-0.016*** (<.001)
Adj-R2	0.4700	0.4770	0.4498	0.4940
F-value	34.70*** (<.0001)	20.26*** (<.0001)	32.07*** (<.0001)	21.61*** (<.0001)
Sample size	191	191	191	191

Regression coefficients are listed with p-values in the parentheses. * p<0.05, ** p<0.01,*** p<0.001.
The variable *Channel* in the interaction terms means *Sales* in model Ib and *Bank* in model IIb.

and thus the discussion is omitted. The model Ia of table 7 has much higher explanation power than the model in table 5a where only *sales* is included. This result implies service quality, as well as marketing channel, can influence an insurer's reputation. The model Ib in table 7 shows that the interaction of salesperson channel and service quality also has a significantly positive impact on the reputation. This model Ib also shows even higher explanation power than the model Ia. Since the multicollinearity is not significant and the explanation power increases,[8] the result implies that the salespersons with good service quality can further raise the insurer's reputation. The impact of bancassurance on corporate reputation remains negative as shown under model IIa, which is consistent with the finding in table 5b. The interaction between bancassurance and service quality has a significantly negative relation with reputation. Again, the multicollinearity is not significant and the explanation power of the model increases.[9] Because the insurers using bancassurance present lower service quality as indicated in the previous findings, the interaction of bank channel and service quality together will further reduce the insurer reputation.

The overall empirical findings suggest that marketing channel does have a significant connection with underwriting service quality. The traditional salesperson channel can provide better service to insurance consumers than bancassurance. The underwriting service quality, in turn, is an important determinant of corporate reputation for the insurers.

[8] The VIFs of (*quality*, *sales*, *quality×sales*) are (2.29, 1.68, 2.55)

[9] The VIFs of (*quality*, *bank*, *quality×bank*) are (6.15, 1.49, 4.72)

Table 7. The Effect of Underwriting Service Quality on Reputation

	Repute Ia	*Repute* Ib	*Repute* IIa	*Repute* IIb
Intercept	2.415 (0.715)	6.612 (0.303)	6.820 (0.301)	9.535 (0.138)
Quality	3.357*** (<.001)	2.436*** (<.001)	3.434*** (<.001)	6.339*** (<.001)
Sales	0.052*** (<.001)	0.028* (0.029)		
Bank			-0.059*** (<.001)	-0.051*** (<0.001)
Debtr	-0.140** (0.002)	-0.116** (0.007)	-0.182*** (<.001)	-0.165*** (<.001)
lnPremNC	1.626*** (<.001)	1.213*** (<.001)	1.898*** (<.001)	1.581*** (<.001)
FHC	-1.287 (0.261)	-1.304 (0.234)	-1.071 (0.350)	-0.960 (0.386)
FI	-1.570 (0.101)	-1.830* (0.046)	-1.364 (0.151)	-2.045* (0.030)
Quality×Sales		0.061*** (<.001)		
Quality×Bank				-0.046*** (<.001)
Adj-R^2	0.6192	0.6515	0.6238	0.6484
F-value	51.41*** (<.001)	50.67*** (<.001)	52.41*** (<.001)	50.00*** (<.001)
Sample size	187	187	187	187

Regression coefficients are listed with p-values in the parentheses. * p<0.05, ** p<0.01,*** p<0.001.

V. Conclusion

Bancassurance becomes the dominant marketing channel for life insurance in Taiwan even though it has prevailed for just about ten years. The traditional channel of employed (or contracted) salespersons gradually loses their marketing power to bancassurance. Although bancassurance may have competitive advantages in saving commission cost or expanding the business to bank customers, it also raises questions about the bank teller's professional capability in providing insurance products. Previous literature has debated on the advantages of bancassurance, especially the cost efficiency. As more and more cost-saving marketing channels for insurance arise, such as internet or telephone marketing, the value of traditional salespersons for insurance marketing becomes an important issue to study since this channel usually requires higher acquisition cost.

This paper investigates the relationship between marketing channels and underwriting service quality. The empirical analyses are emphasized on two major channels: traditional salesperson and bancassurance. According to the empirical analysis, the salesperson channel has competitive advantages in underwriting service quality which are measured in complaint ratios, contract persistency, etc. This evidence can support the coexistence of salesperson and bancassurance because each channel presents its competitive advantage: bancassurance is more cost efficiency but salesperson holds better service quality.

The empirical result shows that the insurers with more dependence on salesperson channel present lower complaint ratios and higher contract persistency, which implies better underwriting service quality. The empirical result also indicates that service quality has a significantly positive impact on corporate reputation. Therefore the reputation of insurers with more dependence on salesperson channel is higher than that of others. Since corporate reputation is a critical factor for consumers to select an insurer, it is expected that salesperson remains an important

marketing channel in the insurance market even if it may incur higher acquisition cost.

This paper provides the empirical evidence that bancassurance has a negative relation with underwriting service quality and consequently influences the reputation of insurers. This finding implies bancassurance is not as good as salesperson in maintaining long-term customer relationship. The insurers with dependence on bancassurance for marketing products should take additional strategies to maintain customer relation so as to have long-term competitive advantages in the market. However, there is a caveat in interpreting the findings. Although this paper indicates a strong connection between marketing channel and underwriting service quality, it does not imply that marketing channel itself is a cause for service quality. The insurer's business policy for consumer protections may affect the resource allocation for improving service quality and then marketing approach. That is, an insurer intending to provide more service to customers may prefer salesperson channel and spend more expenses. Otherwise bancassurance is adopted. The selection of marketing channel and its service quality both may be affected by the insurer's business policy. Although the empirical result is consistent with the theoretical arguments in previous literature, there are some limitations of this research. First, the history of bancassurance in Taiwan is short (only around ten years), and its operational approach continues being modified. Therefore the empirical findings in this paper may not always stay in the future insurance market. Second, the data for underwriting expenses include all kinds of operational expenses except for commissions. This paper cannot distinguish the sources of expenses, for example, management expense or claim adjusting expense, and thus it cannot tell how to improve the cost inefficiency for the salesperson channel. Third, the impacts of service quality on new business volume and profitability are not discussed in this paper. The future studies may investigate the relationship among these elements and analyze the contribution of underwriting service quality to the insurance business.

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Appendix

Table A1. Definition of Variable

Variable	Definition
$Bank_{i,t}$	= premium incomes of new contracts from bancassurance / total premium incomes of new contracts of insurer i in year t
$Sales_{i,t}$	= premium incomes of new contracts from salesperson / total premium incomes of new contracts of insurer i in year t
$Cmplnt_{i,t}$	= no. of complaints / no. of contracts in force of insurer i in year t
Coa	= no. of loss-adjusting complaints/ no. of contracts in force of insurer i in year t
Cona	= no. of not loss-adjusting complaints/ no. of contracts in force of insurer i in year t
$Dispute_{i,t}$	= no. of lawsuits for loss-adjusting / no. of loss-adjusting applications of insurer i in year t
$lnExp_{i,t}$	= ln (business expenses) of insurer i in year t
$P13_{i,t}$	= ratio of insurance policies remain effective for 13 months after issued by insurer i in year t.
$P25_{i,t}$	= ratio of insurance policies remain effective for 25 months after issued by insurer i in year t.
$Repute_{i,t}$	= 30 - RMIM Ranking of insurer i in year t
$Debtr_{i,t}$	= total liabilities / total assets of insurer i in year t
$lnPremNC_{i,t}$	= ln (premium incomes of new contracts) of insurer i in year t
$FHC_{i,t}$	= 1 if insurer i in year t is a subsidiary of a financial holding company, otherwise = 0.
$FI_{i,t}$	= 1 if insurer i in year t with more than 50% of equities hold by a foreign insurer, otherwise =0.