Organizational factors and customers' motivation effect on insurance companies' performance ☆

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ABSTRACT

This study associates organizational factors and customers' motivation with insurance companies' performance. Research model, according to resource-based view, considers the effects of age, size, and type of products. Sample comprises 202 insurance companies in Portuguese and Spanish markets between 2005 and 2007—before international financial crisis—and those companies' performance data between 2010 and 2012. Factor analysis and structural equation modeling methodology are tools for analysis. Results show that customers' necessities and confidence strongly affect organizational factors that, in turn, affect insurance companies' performance. Insurance companies' type of products and period also affect performance. This study provides important contributions to literature and practice.

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1. Introduction

Insurance industry is highly competitive and rapidly maturing. Industry structure (Mehra, 1996) and its specific resources (Combs & Ketchen, 1999) link with performance differences among companies. The 2008 global economic crisis increases underwriting risk, seriously questioning insurance companies' profitability (Kearney, 2010). Organizations must focus on customer acquisition, retention, and cross-selling to answer customers' necessities and convenience, and ensure confidence safeguard companies' income and market value (Gupta et al., 2006). Lower satisfaction involves short relations and greater customers' diversity, making firms more sensitive to losing customers cost (Bolton, 1998). Customers' loyalty behavior increases companies' activity, which requires understanding with customers the conditions for their satisfaction (Ball, Coelho, & Machás, 2004). Confidence affects results and renders expected behavior (Pérez & Descals, 1999). For insurance companies, loyalty involves greater activity and more results (Ball et al., 2004).

Insurance companies' performance determinants receive little attention (Ahmed, Ahmed, & Usman, 2011). Knowledge regarding customers' relationship with organizations or products/services (Lacey & Morgan, 2007; Sharma & Patterson, 2000) and effect on performance is insufficient. Furthermore, knowledge on how product diversification (Liebenberg & Sommer, 2008), age, and size affect insurance companies' performance is also limited. Resource-based view supports this study (Barney, 1986; Prahalad & Hamel, 1990). The sample comprises 202 insurance companies operating in Portuguese and Spanish markets between 2005 and 2007, before international financial crisis, and performance data between 2010 and 2012.

This research focuses on organizational factors, customers' motivation, and insurance companies' performance. Objectives include evaluating how organizational factors and customers' motivation affect performance and analyzing the influence of companies' age, size, and type of products in the research model. This study also evaluates insurance companies' performance before and after international financial crisis.

Organizational and customers' motivation factors encourage insurance companies' performance, depending on companies' activities. However, customers' motivation factors strongly affect organizational factors. Different periods lead to significant variations in the model.

Section 2 contains literature review and identification of hypotheses. Section 3 presents research agenda. Section 4 comprises analysis. Section 5 involves discussion. Section 6 contains conclusions, contributions, and future research directions.

2. Literature review

Companies' organizational factors and processes quality choice follows a customer-centered point of view (Dimitriades, 2006; Shah,

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Rust, Parasuraman, Staelin, & Day, 2006). Mobilization and optimization facilitate performance maximization, which resource-based view supports (Barney, 1986; Das & Teng, 2000; Prahalad & Hamel, 1990). These factors involve competitive conditions influencing performance in a very competitive and dynamic market. These conditions force insurance companies to have tangible and intangible resources (Mahoney & Pandian, 1992) to prevent or delay imitation and gain competitive advantage.

2.1. Organizational factors

Insurance companies' organizational factors limit structure and other organizational aspects, because market long-term return affects management decisions (Cespedes, 1988). Among organizational factors, service innovation, human resources, financial resources, and information system are essential. Organizational structure deriving from routines to ensure organizations' functionality and insurance underwriting risk measurements are other important intangible resources. Size and underwriting risks positively affect insurance companies' performance (Lee & Lee, 2012; Malik, 2011; Sambasivam & Ayele, 2013). Non-life insurance companies' organizational factors and structure differently affect these companies' efficiency with unique comparative advantages (Lai & Limpaphayom, 2003). Fukuyama and Weber (2001) examine technical efficiency and productivity changes of Japanese non-life insurers concluding that technological advancements are the main source of growth. Chen and Tsou (2007) explore companies' significant focus on information technology to align business strategies, enable innovative functional operations, and expand business networks. However, organizations that can improve customers' satisfaction are more likely to invest in new technologies (Abraham, 2012; Chen & Tsou, 2007; Smith, McKeen, & Singh, 2007).

Organizations' human resources affect efficiency, profitability, and productivity (Solkhe & Chaudhary, 2011). Human resources optimal use, depending on talent, is an essential competitive advantage source considering imitation difficulties for competitors (Kundu & Vora, 2004; Luthans, Avey, Avolio, & Peterson, 2010). Human resource aptitude and development affect companies' performance (Rizov & Croucher, 2008). Organizational contextual variables (e.g., ownership, age, and firms' size) affect some human resource management practices in small and medium enterprises (Zheng, O'Neill, & Morrison, 2009). Both financial resources that are critical for business success and information systems that ensure processes efficiency affect insurance companies' performance. Factors identification leads to the following hypothesis:

H1. Organizational factors affect insurance companies' performance.

2.2. Customers' motivation

Motivated and high potential customers lead to organizations' better economic performance (Becker, Greve, & Albers, 2009; Reinartz, Krafft, & Hoyer, 2004). Therefore, companies focus on better understanding customers and their reactions (Ball et al., 2004; Schieffer & Leininger, 2008). Gupta et al. (2006) highlight that meeting customers' necessities and convenience is essential to obtain their confidence, thus ensuring companies' income and market value. According to Pérez and Descals (1999), confidence affects results and makes behavior predictable. Durvasula, Lysonski, Mehta, and Tang (2004) emphasize service experience importance according to customers' necessities satisfaction. Customers contribute to value creation for themselves and for companies (Shah et al., 2006). Monitoring customer satisfaction should decrease insurance policies cancelation risk and risk's negative impact on business margins (Guillen, Neilsen, & Perez-Marin, 2008).

Companies tend to understand better their limitations when focusing on customers, striving to manage actively customer expectations and measuring actions effectiveness (Capon & Senn, 2010; Rigby & Ledingham, 2004). Consequently, customers should trust companies and their products/services (Chiou & Droge, 2006). Confidence makes customers aware of companies' limitations, understanding better risks, and increasing loyalty and commitments with companies (Aurier & N'Goala, 2010; Fullerton, 2003). Loyalty increases activity, providing insurance companies with better results (Ball et al., 2004).

Lower satisfaction involves shorter relationships and customers' diversity, making companies more sensitive to losing customers cost (Bolton, 1998). Monitoring customer satisfaction in insurance sector may decrease insurance policies cancelation risk and risk's negative impact on business margins (Guillen et al., 2008). Customer's confidence and satisfaction with products affects company's profitability (Durvasula et al., 2004). In the insurance industry, insurance policies cancelation risk and risk's impact on sales profitability have a relationship higher customer loyalty (Guillen et al., 2008). However, customers' behavior in relation with insurance products purchase stems from satisfaction of making savings or protection necessities. Wallace, Joan, and Johnson (2004) mention customer loyalty's importance in income generation.

From cognitive loyalty perspective, customers consider the product superior to others and perceive the brand with greater benefits (Jones, Beatty, & Mothersbaugh, 2000). Johnson, Herrmann, and Huber (2006) and Taylor, Hunter, and Longfellow (2006) note that factors leading to loyalty are complex, multidimensional, and dynamic, constantly changing and evolving. Loyal attitudes rely on customers' cognitive judgment and reflect in service confidence and preference, affiliation sense with the product, service or organization, and recommendation to others (Butcher, Sparkes, & O'Callaghan, 2001; Jones & Taylor, 2007; Patterson & Ward, 2000). Loyal customers are proud to use company's products or services over alternatives (Bove, Pervan, Beatty, & Shiu, 2009; Johnson, Garbarino, and Sivadas (2006); Jones & Taylor, 2007; Li & Petrick, 2008; Russell-Bennett, McColl-Kennedy, & Coote, 2007). This pride results in preference and in exclusive service provider consideration (Aydin & Özer, 2005). Additionally, customers want to purchase more diversity of products/services from current suppliers (Sublaban & Aranha, 2009). Essentially, necessity and confidence in products reflect customers' motivation. The hypothesis is the following:

H2. Customers' motivation affects insurance companies' performance.

2.3. Age, size, type of product, and period

Size is a major determinant of insurance companies' financial health, positively affecting life insurance companies' financial performance (Browne, Janney, Paul, Muralidhar, & Ruff, 2001; Chen & Wong, 2004). Ahmed et al. (2011) analyze how life insurance companies' characteristics affect performance, concluding that age negatively affects performance, while size affects performance positively, especially in larger companies. Insurance companies' performance depends on several factors, including organizational form (Cummins, Weiss, & Zi, 1999) and size (Fecher, Perelman, & Pestieau, 1991; Malik, 2011).

The types of products are essential in insurance market. Choosing life or non-life insurance directly affects capital requirements and solvency levels, among other legal reasons. Booth, Chadburn, Cooper, Haberman, and James (1999) argue that life insurance products are essential for individuals and companies wishing to safeguard from financial losses deriving from death, survival, disease, or disability. Arena (2008) and Gamarra-Trigo (2008) support that, for insurance companies, the types of products have strategic implications in capital and technical capacity—very demanding in terms of human resources, risk management, and innovation processes. Business

context constantly changes, affecting insurance companies. Insurance product diversification has to do with geographic diversification degree, positively affecting performance (Elango & Pope, 2008). The hypotheses are the following:

H3. Insurance companies' age, size, and type of product moderate the research model.

H4. Temporal context affects insurance companies' performance.

2.4. Performance

Customer loyalty decreases insurance policies cancelation risk and minimizes risk's impact on sales return (Guillen et al., 2008). Durvasula et al. (2004) consider that confidence and customer satisfaction with the product affect companies' profitability. Structural and strategic factors conforming organizational factors affect companies' performance. According to literature, ROE or ROA is appropriate to measure insurance companies' financial performance (Browne et al., 2001; Elango & Pope, 2008; Lai & Limpaphayom, 2003; Liebenberg & Sommer, 2008; Malik, 2011). However, Klumpes (2004) indicates that ROS, sales growth, and productivity also express performance.

3. Research agenda

3.1. Research model and hypotheses

Research model relates organizational factors and customers' motivation with insurance companies' performance considering the effects of age, size, and type of product, as well as performance behavior in two periods (Fig. 1).

3.2. Variables

Variables groups are *organizational factors* (ORGFACT), *customers' motivation* (CUSTMOT), and *performance* (PERFOR). *Organizational factors* identifies with six variables: *product and service innovation* (Innov), *product underwriting risk* (Risk), *human resources* (HumRes), *financial resources* (FinRes), *information systems* (InfSys), and *organizational structure* (OrgStr). *Customers' motivation* identifies with two variables: *necessity* (Necess) and *confidence* (Confid). Finally, *performance* identifies with four variables: *return on equity* (ROE), *return on sales* (ROS), *sales growth* (SG), and *productivity* (Prod). Moderating variables are *company's age* (Age), *companies' size* (Size), *type of product* (Type) and *period* (Period) which applies only to performance.

Variables relating to *organizational factors* and *customers' motivation* result from a questionnaire. This study measures them according to a Likert scale ranging from 1 (very little, disagree, or very poor) to 5 (high, agree, or very strong).

Performance variables were recoded to a 5 categories scale ranging from 1 (lowest performance) to 5 (highest performance). Subsequently, the 3-year period performance was computed using the same 5 categories scale and moderating variables resulting from continuous variables transformation into dummy variables (Age and Size), or are dichotomous (Type) (Table 1).

3.3. Database and sample

From original 431 insurance companies, the sample contains 202 (38 companies operating in Portuguese market and 164 companies operating in Spanish market). No restrictions exist on size, age, or type of company. Information management and corporate communication managers answered an electronic questionnaire (focusing organizational factors and customers' motivation variables) in 2009. Portuguese and Spanish insurance companies associations (APS and UNESPA) sent a letter to all member companies. Performance data comprises official documentation that official institutions in each country (ISP in Portugal and DGSFP in Spain) provided from periods 2005–2007 and 2010–2012. Factor analysis and Structural Equation Modeling (SEM) using AMOS software are analysis statistical methods.

4. Analysis and results

4.1. Descriptive statistics

Insurance companies selling life insurance products are 48 (23.8%), while the ones selling non-life insurance products are 116 (57.4%), and those selling both types are 38 (18.8%). This study classifies companies selling the two types of products in life and non-life according to insurance premiums origin preponderance. Final distribution corresponds to 58 companies in life insurance business and 144 companies in non-life business. Companies' average age is 42 years, ranging from 6 to 139 years. More than 50% of the companies are active more than 30 years. Companies' average size, in activity volume, is 271,694 thousand euros.

4.2. Exploratory statistics

Preliminary model analysis, regarding 2005–2007 period, yields that ROS does not show statistically significant regression weights or scale reliability. The same result yields from 2010–2012 period, regarding ROS, SG, and Prod.
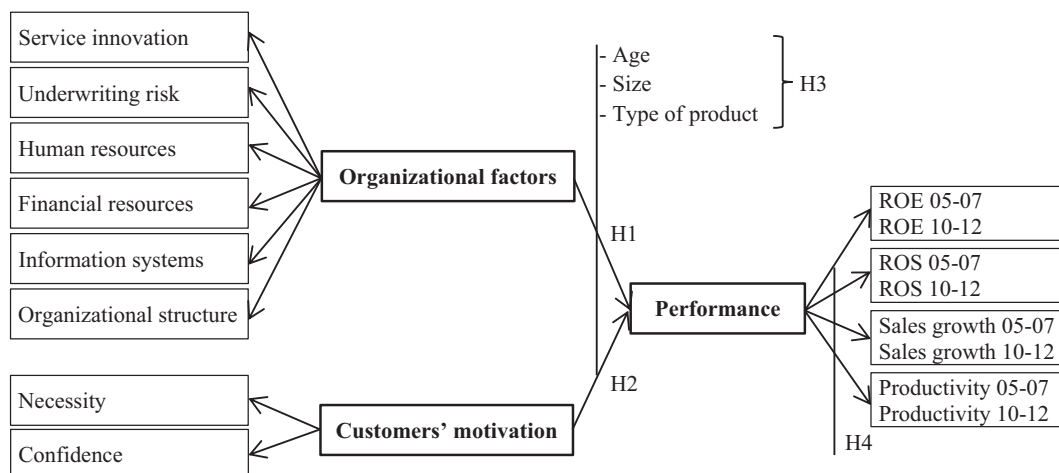

Fig. 1. Research model and hypotheses.

Table 1
Variables.

Product and service innovation (*Innov*)	Assesses the impact of products and services innovation of on cross-selling and number of purchased products (average of the responses). (Barras, 1986; Epetimehin, 2010)
Product underwriting risk (*Risk*)	Identifies factors measuring underwriting risk, considering "underwriting fixed manuals use", "number of exceptions to the rules for commercial reasons", "monitoring subscription vs. claims" and "auditing underwriting process" (average of the responses). (Froot, 2007; Mougeot & Naegelen, 2009)
Human resources (*HumRes*)	Assesses human resources as a critical factor for insurance companies' activity success. (Senge, 2000; Siebenhüner & Arnold, 2007)
Finance resources (*FinRes*)	Assesses financial resources as a critical factor for insurance companies' activity success. (Berger, Demsetz, & Strahan, 1999; Rebolledo & Platen, 1996)
Information systems (*InfSys*)	Assesses the impact of information systems in the insurance companies' business. (Payne & Frow, 2004)
Organizational structure (*OrgStr*)	Assesses the impact of organizational structure on the activity of the insurance companies. (Coelho & Easingwood, 2008)
Necessity (*Necess*)	Considers the motivations to purchase insurance, resulting from the "necessity to comply with legal obligations" and "necessity for prevention and security" (average of the responses). (Hong & Tam, 2006)
Confidence (*Confid*)	Considers the "number of years with the insurance company", "number of products purchased" and "number of complaints" (average of the responses). (Liu & Wu, 2007; Soureli, Lewis, & Karantinou, 2008)
Return on equity (*ROE*)	Ratio between net income and equity. (Chaganti & Damanpour, 1991, Wan & Yiu, 2009)
Return on sales (*ROS*)	Ratio between net income and insurance premiums volume. (Buzzell & Gale, 1987)
Sales growth (*SG*)	Ratio of sales of the year (n) and the year (n − 1). (Hyvönen & Tuominen, 2007; Wan & Yiu, 2009)
Productivity (*Prod*)	Ratio between the volume of insurance premiums and the number of workers. (Klumpes, 2004, Mehta, Larsen, & Rosenbloom, 1996)
Type of products (*Type*)	Dichotomous variable nominal (0 and 1) identifies if the company sells predominantly life or non-life insurance products. (Arena, 2008; Beck & Webb, 2003)
Company's age (*Age*)	Number of years of business activity since establishment, transformed into a dummy variable distinguishing firms with less than 25 years of activity (0) and companies with 25 or more years of activity (1).
Company's size (*Size*)	Volume of insurance premiums in 2012, transformed into a dummy variable distinguishing companies with premiums total inferior to EUR 50 million (0) and equal or superior to EUR 50 million (1).
Period (*Period*)	Identifies two periods: 2005–2007 and 2010–2012 (average of three years)

The model presents indicators of good or very good quality except for χ^2 test p-value (conservative test subject to type II error), which may present contrary values under certain combinations of variables and observations number (Hair, Black, Babin, & Anderson, 2010, p. 672), resorting to other measures to support the model fit.

4.2.1. Organizational factors and customers' motivation relationship with performance

According to research hypotheses, tests of internal consistency, reliability, validity, and unidimensionality of model's exogenous latent variables yield favorable results (Hair, Anderson, Tatham, & Black, 1998; Tabachnick & Fidell, 2001).

Global SEM model presents statistically significant relationships between factors (Arbuckle & Wothke, 1999) with the following goodness of fit (Kline, 1998; Schumacker & Lomax, 2010; Ullman, 2001): $\chi^2 = 81.77$ (p = 0.00); $\chi^2/df = 1.74$; CFI = 0.98; GFI = 0.94; TLI = 0.98; RMSEA = 0.06 (p = 0.20) (Fig. 2).

ORGFACT (CR = 0.97; AVE = 0.81) and CUSTMOT constructs (CR = 0.83; AVE = 0.64) show composite reliability (CR) and convergent validity (average variance extracted−AVE). PERFORM construct (CR = 0.56; AVE = 0.25) shows weak but acceptable indicators. The statistical significance of each standardized regression weight between model constructs (ORGFACT–PERFORM, $\beta = 0.65$; CUSTMOT–ORGFACT, $\beta = 0.84$) receives confirmation but is not valid for CUSTMOT–PERFORM ($\beta = -0.01$).

The *organizational factors* construct (ORGFACT) reflects in *product and service innovation* (Innov) ($\beta = 0.96; R^2 = 0.93$), *product underwriting risk* (Risk) ($\beta = 0.96; R^2 = 0.92$), *human resources* (HumRes) ($\beta = 0.86; R^2 = 0.74$), *financial resources* (FinRes) ($\beta = 0.79; R^2 = 0.68$), *information systems* (InfSys) ($\beta = 0.87; R^2 = 0.76$), and *organizational structure* (OrgStr) ($\beta = 0.74; R^2 = 00.55$). *Customers' motivation* construct (CUSTMOT) reflects in the motivation to purchase insurance products or *necessity* (Necess) ($\beta = 0.85; R^2 = 0.73$), and *confidence*

(Confid) ($\beta = 0.91; R^2 = 0.82$). *Performance* construct (PERFOR) reflects in *return on equity* in 2005–2007 period (ROE 05–07) ($\beta = 0.42; R^2 = 0.18$), *return on equity* in 2010–2012 period (ROE 10–12) ($\beta = 0.46; R^2 = 0.21$), *sales growth* in 2005–2007 period (SG 05–07) ($\beta = 0.34; R^2 = 0.12$), and *productivity* in 2005–2007 period (Prod 05–07) ($\beta = 0.49; R^2 = 0.24$). Results show that ORGFACT contributes importantly to PERFORM ($\beta = 0.65$). CUSTMOT, in turn, strongly affects ORGFACT ($\beta = 0.84$).

4.2.2. Effects of age, size and type of product in the research model

The analysis of insurance companies' age and size effects in the research model does not obtain global quality valid indicators. Analysis of companies selling life insurance products (58 companies) and non-life insurance products (144 companies) leads to good and very good indicators of the model global quality (except for χ^2 test p-value as in the above global model).

χ^2 test assesses the statistical significance of the difference between the regression weights' sum of nested models for the types of product life versus non-life. The measurement model with invariant structural coefficients differs from the model with free structural coefficients ($\chi^2/df = 7.95$; p = 0.047), meaning that structural coefficients depend on groups of type of product.

Structural regression weights in the model for companies selling non-life insurance products are statistically significant in ORGFACT–PERFOR ($\beta = 0.49$) and CUSTMOT–ORGFACT ($\beta = 0.85$) but statistically insignificant in CUSTMOT–PERFOR ($\beta = 0.03$) (Fig. 3). Regression weights in PERFOR–ROE 05–07 ($\beta = 0.59; R^2 = 0.35$) and PERFOR–ROE 10–12 ($\beta = 0.45; R^2 = 0.20$) are statistically significant, while in relationships between PERFOR–SG 05–07 ($\beta = 0.22, R^2 = 0.05$) and PERFOR–Prod 05–07 ($\beta = 0.19; R^2 = 0.04$) show poor statistical significance. ORGFACT (CR = 0.97; AVE = 0.81) and CUSTMOT (CR = 0.84; AVE = 0.66) are reliable and valid. PERFOR (CR = 0.45; AVE = 0.20) presents fragile but acceptable CR and AVE indicators. In insurance
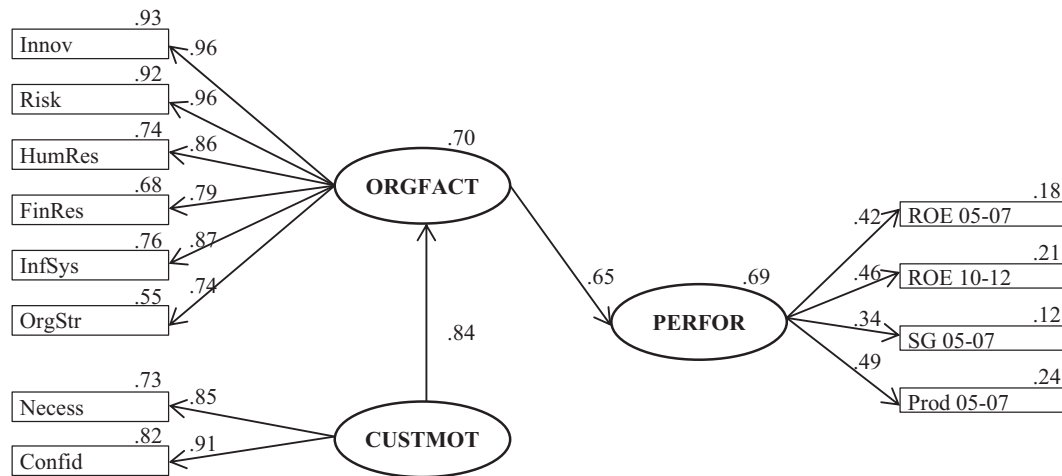
Fig. 2. SEM results for the global model (all companies).

companies mainly selling non-life products, ORGFACT contributes moderately to PERFOR ($\beta = 0.49$), which CUSTMOT ($\beta = 0.85$, $R^2 = 0.72$) strongly affects. ROE 05–07 and ROE 10–12 reflect PERFOR.

Regarding insurance companies selling life insurance products, ORGFACT (CR = 0.91; AVE = 0.62) and CUSTMOT (CR = 0.88; AVE = 0.71) are reliable and valid (Fig. 4), while PERFOR (CR = 0.61; AVE = 0.30) shows weak but acceptable indicators. The regression weights of the relationships CUSTMOT–PERFOR ($\beta = 0.43$) and CUSTMOT–ORGFACT ($\beta = 0.79$) are statistically significant and the regression weight of the relationship ORGFACT–PERFOR ($\beta = 0.25$) is weak but statistically significant. The regression weights of the relationships PERFOR–ROE 05–07 ($\beta = 0.67$; $R^2 = 0.45$), PERFOR–ROE 10–12 ($\beta = 0.45$; $R^2 = 0.21$), PERFOR–SG 05–07 ($\beta = 0.35$, $R^2 = 0.12$) and PERFOR–Prod 05–07 ($\beta = 0.36$; $R^2 = 0.13$) are statistically significant. In insurance companies mainly selling life insurance products, CUSTMOT affects moderately PERFOR ($\beta = 0.43$) and strongly ORGFACT ($\beta = 0.79$; $R^2 = 0.63$). PERFOR reflects in ROE 05–07, ROE 10–12, SG 05–07, and Prod 05–07.

SEM models for the groups selling life and non-life products yield the following goodness of fit results: $\chi^2 = 134.47$ (p = .00); $\chi^2/df = 1.43$; CFI = 0.98; GFI = 0.91; TLI = 0.97; RMSEA = 0.05 (p = 0.62).

A dichotomous variable for life products (1) and non-life products (0) assesses activity effect in global model. Z tests assess the significance of structural coefficients differences between groups. However, individually, those differences are not statistically significant.

In this context, MIMIC procedure presents alternative estimating differences between groups in latent variables averages. Evaluating differences between groups according to selling life (1) and non-life (0) insurance products, results are *life insurance product–performance* ($\beta = 0.20$), *life insurance product–customers' motivation* ($\beta = 0.25$), and *life insurance product–organizational factors* ($\beta = 0.46$). These results show that *life insurance product* increases average performance and affects the way to achieve performance.

Type of product effect on SEM model yields the following goodness of fit results: $\chi^2 = 109.17$ (p = 0.00); $\chi^2/df = 1.95$; CFI = 0.97; TLI = 0.96; RMSEA = 0.07 (p = 0.06). Considering p < 0.10, all regression weights between product type and model constructs are statistically significant.

5. Discussion

5.1. Relationship of organizational factors and customers' motivation with performance

In the global model, results support that ORGFACT highly contributes to PERFOR ($\beta = 0.65$). However, CUSTMOT strongly affects ORGFACT ($\beta = 0.84$). Insurance companies' organizational factors affect performance. Customers' motivation—resulting from confidence in insurance companies, and quality and diversity according to costumers' necessities—strongly affects organizational factors. The focus in
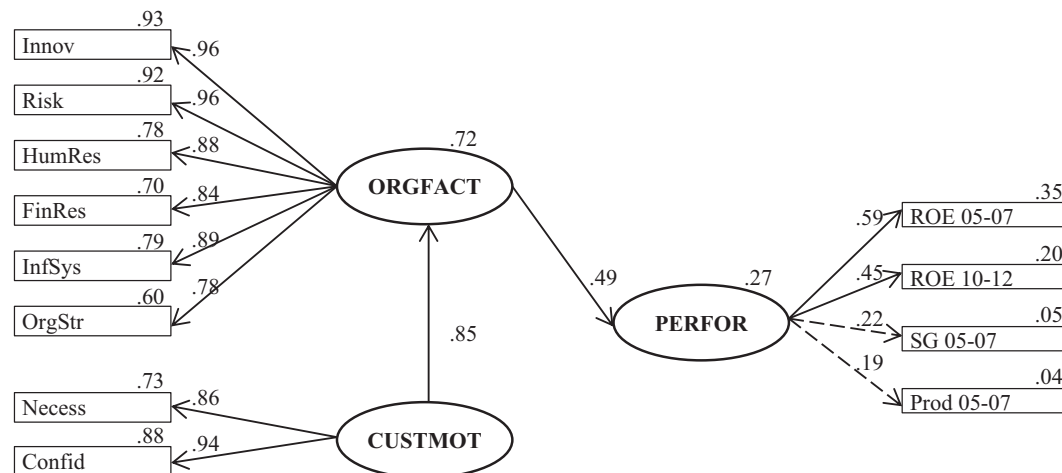

Fig. 3. SEM results for the group of insurance companies selling non-life products.
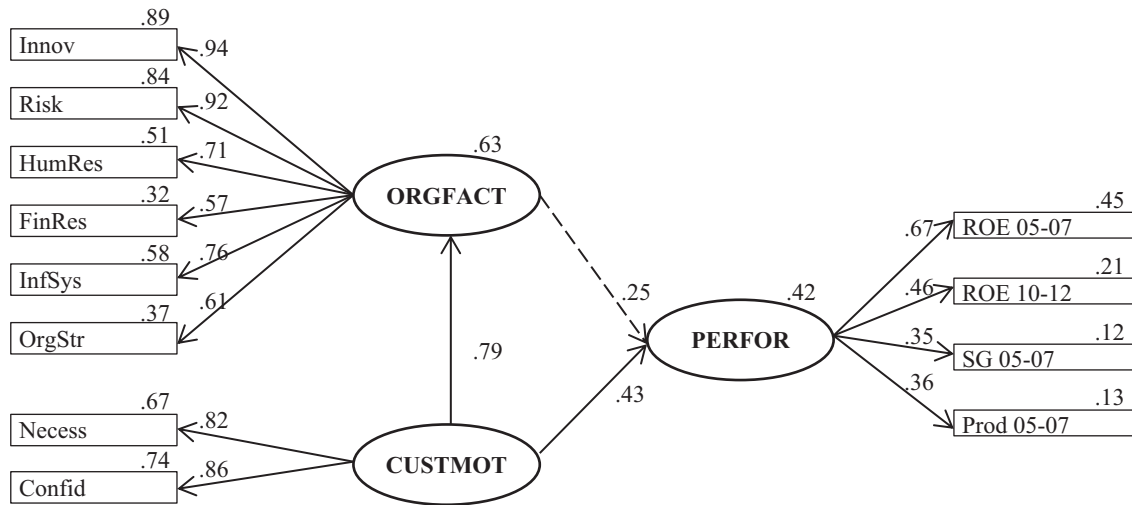
Fig. 4. SEM results for the group of insurance companies selling life products.

insurance companies' human resources quality and information systems is coordinated with products and services innovation, and the attention to underwriting risks to achieve the best conditions in terms of premium volume (productivity) and profitability. The organizational structure supporting insurance business development is essential and contributes to results. Organizational factors directly influence performance, but customers' motivation does not influence directly performance, although customers' motivation is very important affecting organization quality and mobilized resources. Literature shows the effect of technological innovations (Chen & Tsou, 2007; Fukuyama & Weber, 2001), underwriting risk (Lee & Lee, 2012; Sambasivam & Ayele, 2013), organizational structure (Lai & Limpaphayom, 2003), and human resources (Rizov & Croucher, 2008; Solkhe & Chaudhary, 2011) on performance, which productivity, profitability, and business growth measure. H1 receives support. Analysis of all insurance companies, regardless of type of product, does not support the relationship between customers' motivation and performance. However, the distinction of insurance companies according to life and non-life insurance products supports that customers' motivation affects performance in the group of companies selling life insurance products. This result confirms that, in certain conditions, customers' necessities and confidence in products and companies directly affect insurance companies' performance, which aligns with literature. Durvasula et al. (2004), Pérez and Descals (1999), and Wallace et al. (2004) highlight customers' necessities and confidence effect on insurance companies' results. Other authors (Gupta et al., 2006; Schieffer & Leininger, 2008) report how customers' motivation affects business growth and creation of companies' market value. H2 receives support.

5.2. Effect of companies' age, size, and type of products in the research model

Insurance companies' age and size do not affect the research model. Type of products affects the research model, characterizing insurance business specialization. These results differ from literature highlighting the importance of companies' age and size (Ahmed et al., 2011; Chen & Wong, 2004; Malik, 2011).

Life and non-life products differently affect the relationship between organizational factors and customers' motivation with insurance companies' performance. In insurance companies primarily selling non-life products ORGFACT contributes moderately to PERFOR ($\beta = 0.49$), but CUSTMOT strongly affects ORGFACT ($\beta = 0.85$; $R^2 = 0.72$). PERFOR mainly identifies with ROE 05–07 and ROE 10–12. In companies selling primarily life insurance products, CUSTMOT contributes moderately to

PERFOR ($\beta = 0.43$) and strongly to ORGFACT ($\beta = 0.79$; $R^2 = 0.63$). PERFOR identifies with ROE 05–07, ROE 10–12, SG 05–07, and Prod 05–07. Formal statistical tests confirm, in life insurance activity, that customers' motivation and organizational factors of those in non-life insurance activity are higher, leading to better effects on performance. The reason may be that life insurance activity is more personal and focuses more attention on customers benefiting from the higher customers' motivation. These characteristics have certain effects on organizations' structure and performance, opposing, by hypothesis, the use of sales force and/or sales channels in the non-life insurance activity. The explained variance in life insurance activity is higher ($R^2 = 0.42$ vs. $R^2 = 0.27$), aligned with the effort in life insurance activity to serve customers and achieve results. Arena (2008) and Gamarra-Trigo (2008) note that type of products and company's technical capacity are important for insurance companies, especially affecting the quality of human resources, innovation capabilities, and products risk management and company's results. According to Elango and Pope (2008), products diversity and geographic context affect insurance companies' performance. Literature confirms these research results. H3 receives partial support from the confirmation of the importance of activity's specialization, but does not confirm companies' age and size effect on the model.

5.3. Effect of period in performance

In 2005–2007 period, ROE ($R^2 = 0.18$), *sales growth* ($R^2 = 0.12$), and *productivity* ($R^2 = 0.24$) show a clear identification with insurance companies' *performance*. In 2010–2012 period only ROE ($R^2 = 0.21$) sustains evidence. In life insurance 2005–2007 period, *return on equity* ($R^2 = 0.45$) is of great importance when comparing to *sales growth* ($R^2 = 0.12$) and *productivity* ($R^2 = 0.13$) of companies. In 2010–2012 period, only *return on equity* ($R^2 = 0.21$) presents some importance as a performance variable, though less significant than in the previous period. Insurance companies' performance depends on temporal contexts, with ROE becoming more important. H4 receives support.

6. Conclusions and contributions

Results support that temporal context affects insurance companies' performance and that, in development periods, productivity, profitability, and business growth are important performance indicators. In a period after a major crisis, the relationship with performance is weaker and only receives support from relationship with profitability.

Customers' necessities and confidence in insurance companies drive insurance companies' resources mobilization, structure, and organization.

Insurance companies' performance depends mainly on organizational factors deriving from customers' actions.

Life insurance companies pay more attention to customers' motivation and organizational resources and improve effects on business performance benefiting directly from customers' confidence in companies. This confidence fosters customers' deeper involvement and companies' ability to meet customers' necessities.

Results do not demonstrate the influence of insurance companies' age and size in the relationship between organizational factors, customers' motivation, and performance.

An important contribution of this study is the evidence on organizational factors' effect on the insurance companies' performance and on the effect of customers' necessities and confidence on the organizational factors. Another considerable contribution is a better knowledge of insurance activity's (life vs. non-life) impact on insurance companies' performance. This study also evidences the little importance of the temporal context in which insurance companies operate and the subsequent performance implications.

Exploring other customers' motivating factors and broadening to other activities (categories of insurance products) may be important for future research. Context conditions role in insurance business and temporal context may also be interesting. Another point is to examine the existence of non-linear effects on performance. Finally, evaluating the relationship between insurance products and companies' geographic diversification would be also interesting.

References

Abraham, S. E. (2012). Information technology, an enabler in corporate governance. *Corporate Governance*, 12(3), 281–291.

Ahmed, N., Ahmed, Z., & Usman, A. (2011). Determinants of performance: A case of life insurance sector of Pakistan. *International Research Journal of Finance and Economics*, 61, 123–128.

Arbuckle, J. L., & Wothke, W. (1999). *Amos 4.0 user's guide.* Chicago, IL: SPSS.

Arena, M. (2008). Does insurance market activity promote economic growth? A cross-country study for industrialized and developing countries. *The Journal of Risk and Insurance*, 75, 921–946.

Aurier, P., & N'Goala, G. (2010). The differing and mediating roles of trust and relationship commitment in service relationship maintenance and development. *Journal of the Academy of Marketing Science*, 38(3), 303–325.

Aydin, S., & Özer, G. (2005). National customer satisfaction indices: An implementation in the Turkish mobile telephone market. *Marketing Intelligence & Planning*, 23(5), 486–504.

Ball, D., Coelho, P. S., & Machás, A. (2004). The role of communication and trust in explaining customer loyalty: An extension to the ECSI model. *European Journal of Marketing*, 38, 1272–1293.

Barney, J. B. (1986). Organizational culture: Can it be a source of sustained competitive advantage? *Academy of Management Review*, 11, 656–665.

Barras, R. (1986). Towards a theory of innovation in services. *Research Policy*, 15, 161–173.

Beck, T., & Webb, I. (2003). Economic, demographic, and institutional determinants of life insurance consumption across countries. *The World Bank Economic Review*, 17, 51–88.

Becker, J. U., Greve, G., & Albers, S. (2009). The impact of technological and organizational implementation of CRM on customer acquisition, maintenance, and retention. *International Journal of Research in Marketing*, 26(3), 207–215.

Berger, A. N., Demsetz, R. S., & Strahan, P. E. (1999). The consolidation of the financial services industry: Causes, consequences, and implications for the future. *Journal of Banking & Finance*, 23, 135–194.

Bolton, R. N. (1998). A dynamic model of the duration of the customer's relationship with a continuous service provider: The role of satisfaction. *Marketing Science*, 17(1), 45–65.

Booth, B., Chadburn, R., Cooper, D., Haberman, S., & James, D. (1999). *Modern actuarial theory and practice.* New York, NY: Chapman and Hall.

Bove, L. L., Pervan, S. J., Beatty, S. E., & Shiu, E. (2009). Service worker role in encouraging customer organizational citizenship behaviors. *Journal of Business Research*, 62(7), 698–705.

Browne, R., Janney, J., Paul, K., Muralidhar, K., & Ruff, B. (2001). An empirical investigation of the stakeholder theory perspective. *Journal of Business Ethics*, 32(2), 143–156.

Butcher, K., Sparkes, B., & O'Callaghan, F. (2001). Evaluative and relational influences on service loyalty. *International Journal of Service Industry Management*, 12(4), 310–327.

Buzzell, R., & Gale, B. (1987). *The PIMS principles (Profit Impact of Market Strategy).* London, UK: Free Press.

Capon, N., & Senn, C. (2010). Global customer management programs: How to make them really work. *California Management Review*, 52, 32–55.

Cespedes, F. V. (1988). Channel management is general management. *California Management Review*, 31(1), 98–120.

Chaganti, R., & Damanpour, F. (1991). Institutional ownership, capital structure, and firm performance. *Strategic Management Journal*, 12, 479–491.

Chen, J. S., & Tsou, H. T. (2007). Information technology adoption for service innovation practices and competitive advantage: The case of financial firms. *Information Research*, 12(3), 314–336.

Chen, R., & Wong, K. A. (2004). The determinants of financial health of Asian insurance companies. *The Journal of Risk and Insurance*, 71(3), 469–499.

Chiou, J. -S., & Droge, C. (2006). Service quality, trust, specific asset investment and expertise: Direct and indirect effects in a satisfaction–loyalty framework. *Journal of the Academy of Marketing Science*, 34(4), 613–627.

Coelho, F., & Easingwood, C. (2008). A model of the antecedents of multiple channel usage. *Journal of Retailing and Consumer Services*, 15(1), 32–41.

Combs, J., & Ketchen, D. (1999). Explaining interfirm cooperation and performance: Towards a reconciliation of predictions from the resource-based view and organizational economics. *Strategic Management Journal*, 20, 49–68.

Cummins, J. D., Weiss, M. A., & Zi, H. (1999). Organizational form and efficiency: The coexistence of stock and mutual property-liability insurers. *Management Science*, 45(9), 1254–1269.

Das, T. K., & Teng, B. -S. (2000). A resource-based theory of strategic alliances. *Journal of Management*, 26(1), 31–61.

Dimitriades, Z. S. (2006). Customer satisfaction, loyalty and commitment in service organizations: Some evidence from Greece. *Management Research News*, 29(12), 787–799.

Durvasula, S., Lysonski, S., Mehta, S. C., & Tang, B. P. (2004). Forging relationships with services: The antecedents that have an impact on behavioural outcomes in the life insurance industry. *Journal of Financial Services Marketing*, 8(4), 314–326.

Elango, B. Y. M., & Pope, N. (2008). An investigation into the diversification–performance relationship in the U.S. property-liability insurance industry. *The Journal of Risk and Insurance*, 75(3), 567–591.

Epetimehin, F. (2010). Market segmentation as a strategy for goal attainment in the insurance industry. *Journal of Business and Organizational Development*, 2, 94–101.

Fecher, F., Perelman, S., & Pestieau, P. (1991). Scale economics and performance in the French insurance industry. *Geneva Papers on Risk and Insurance*, 16, 315–326.

Froot, K. A. (2007). Risk management, capital budgeting, and capital structure policy for insurers and reinsurers. *The Journal of Risk and Insurance*, 74, 273–299.

Fukuyama, H., & Weber, W. L. (2001). The efficiency and productivity change of non-life insurance companies in Japan. *Pacific Economic Review*, 6(1), 129–146.

Fullerton, G. (2003). When does commitment lead to loyalty? *Journal of Service Research*, 5(4), 333–345.

Gamarra-Trigo, L. (2008). Reasons for the coexistence of different distribution channels: An empirical test for the German insurance market. *The Geneva Papers*, 33, 389–407.

Guillen, M., Neilsen, J. P., & Perez-Marin, A. M. (2008). The need to monitor customer loyalty and business risk in the European insurance industry. *The Geneva Papers on Risk and Insurance*, 33(2), 207–218.

Gupta, S., Hanssens, D., Hardie, B., Kahn, W., Kumar, V., Lin, N., et al. (2006). Modeling customer lifetime value. *Journal of Service Research*, 9(2), 139–155.

Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis* (5th ed.). Upper Saddle River, NJ: Prentice Hall.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis: A global perspective* (7th ed.). Upper Saddle River, NJ: Pearson Education.

Hong, S. J., & Tam, K. Y. (2006). Understanding the adoption of multipurpose information appliances: The case of mobile data services. *Information Systems Research*, 17, 162–179.

Hyvönen, S., & Tuominen, M. (2007). Channel collaboration, market orientation and performance advantages: Discovering developed and emerging markets. *International Review of Retail Distribution & Consumer Research*, 17(5), 423–445.

Johnson, M. S., Garbarino, E., & Sivadas, E. (2006). Influences of customer differences of loyalty, perceived risk and category experience on customer satisfaction ratings. *International Journal of Market Research*, 48(5), 601–622.

Johnson, M. D., Herrmann, A., & Huber, F. (2006). The evolution of loyalty intentions. *Journal of Marketing*, 70, 122–132.

Jones, M. A., Beatty, S. E., & Mothersbaugh, D. V. (2000). Switching barriers and repurchase intentions in services. *Journal of Retailing*, 76(2), 259–274.

Jones, T., & Taylor, S. F. (2007). The conceptual domain of service loyalty: How many dimensions? *Journal of Services Marketing*, 21(1), 36–51.

Kearney (2010). *Insurance year in review 2010.* Sydney: Wotton + Kearney Insurance Lawyers [Retrieved from http://www.wottonkearney.com.au/downloads/iyir%202010.pdf].

Kline, R. B. (1998). *Principles and practices of structural equation modeling.* New York, NY: Guilford Press.

Klumpes, P. (2004). Performance benchmarking in financial services: Evidence from the UK life insurance industry. *Journal of Business*, 2, 257–274.

Kundu, S. C., & Vora, J. A. (2004). Creating a talented workforce for delivering service quality. *Human Resource Planning*, 27(2), 40–51.

Lacey, R., & Morgan, R. M. (2007). Committed customers as strategic marketing resources. *Journal of Relationship Marketing*, 6(2), 51–66.

Lai, G. C., & Limpaphayom, P. (2003). Organizational structure and performance: Evidence from the nonlife insurance industry in Japan. *Journal of Risk and Insurance*, 70(4), 735–757.

Lee, H. H., & Lee, C. Y. (2012). An analysis of reinsurance and firm performance: Evidence from the Taiwan property-liability insurance industry. *The Geneva Papers on Risk and Insurance—Issues and Practice*, 37(3), 467–484.

Li, X., & Petrick, J. F. (2008). Examining the antecedents of brand loyalty from an investment model perspective. *Journal of Travel Research*, 47(1), 25–34.

Liebenberg, A. P., & Sommer, D. W. (2008). Effects of corporate diversification: Evidence from the property-liability insurance industry. *Journal of Risk and Insurance*, 75(4), 893–919.

Liu, T. C., & Wu, L. W. (2007). Customer retention and cross-buying in the banking industry: An integration of service attributes, satisfaction and trust. *Journal of Financial Services Marketing*, 12, 132–145.

Luthans, F., Avey, B., Avolio, B. J., & Peterson, S. J. (2010). The development and resulting performance impact of psychological capital. *Human Resource Development Quarterly*, *21*(1), 41–67.

Mahoney, J. T., & Pandian, J. R. (1992). The resource-based view within the conversation of strategic management. *Strategic Management Journal*, *13*, 363–380.

Malik, H. (2011). Determinants of insurance companies profitability: An analysis of insurance sector of Pakistan. *Academic Research International*, *1*(3), 315–321.

Mehra, A. (1996). Resource and market based determinants of performance in the U.S. banking industry. *Strategic Management Journal*, *17*, 307–322.

Mehta, R., Larsen, T., & Rosenbloom, B. (1996). The influence of leadership style on cooperation in channels of distribution. *International Journal of Physical Distribution & Logistics Management*, *26*, 32–59.

Mougeot, M., & Naegelen, F. (2009). Adverse selection, moral hazard, and outlier payment policy. *Journal of Risk and Insurance*, *76*, 177–195.

Patterson, P. G., & Ward, T. (2000). Relationship marketing and management. In T. Swartz, & D. Iacobucci (Eds.), *Handbook of services marketing and management* (pp. 317–342). Thousand Oaks, Calif: Sage Publications.

Payne, A., & Frow, P. (2004). The role of multichannel integration in customer relationship management. *Industrial Marketing Management*, *33*, 527–538.

Pérez, M. S., & Descals, A. M. (1999). Insights into closeness of relationship as determinant of trust within marketing channels. *Journal of Marketing Channels*, *7*, 29–50.

Prahalad, C. K., & Hamel, G. (1990). The core competence of the corporation. *Harvard Business Review*, *5*, 1–15.

Rebolledo, R., & Platen, E. (1996). Principles for modelling financial markets. *Journal of Applied Probability*, *33*, 601–613.

Reinartz, W., Krafft, M., & Hoyer, W. (2004). The CRM process: Its measurement and impact on performance. *Journal of Marketing Research*, *41*(3), 293–305.

Rigby, D. K., & Ledingham, D. (2004). CRM done right. *Harvard Business Review*, *84*(11), 118–129.

Rizov, M., & Croucher, R. (2008). Human resource management and performance in European firms. *Cambridge Journal of Economics*, *33*(2), 253–272.

Russell-Bennett, R., McColl-Kennedy, J. R., & Coote, L. V. (2007). Involvement, satisfaction, and brand loyalty in a small business services setting. *Journal of Business Research*, *60*(12), 1253–1260.

Sambasivam, Y., & Ayele, A. G. (2013). A study of the performance of insurance companies in Ethiopia. *International Journal of Marketing, Financial Service & Management Research*, *2*(7), 138–150.

Schieffer, R., & Leininger, E. (2008). Customers at the core. *Marketing Management*, *17*(1), 30–37.

Schumacker, R. E., & Lomax, R. G. (2010). *A beginner's guide to structural equation modeling* (3rd ed.). New York, NY: Routledge.

Senge, P. M. (2000). Leadership in the world of the living. In F. Hesselbein, & P. Cohen (Eds.), *Leadership beyond walls*. San Francisco, CA: Jossey-Bass.

Shah, D., Rust, R. T., Parasuraman, A., Staelin, R., & Day, G. S. (2006). The path to customer centricity. *Journal of Service Research*, *9*(2), 113–124.

Sharma, N., & Patterson, P. G. (2000). Switching costs, alternative attractiveness and experience as moderators of relationship commitment in professional, consumer services. *International Journal of Service Industry Management*, *11*(5), 470–490.

Siebenhüner, B., & Arnold, M. (2007). Organizational learning to manage sustainable development. *Business Strategy and the Environment*, *16*, 339–353.

Smith, H. A., McKeen, J. D., & Singh, S. (2007). Developing information technology strategy for business value. *Journal of Information Technology Management*, *18*(1), 49–58.

Solkhe, A., & Chaudhary, N. (2011). HRD climate and organizational performance with focus on job satisfaction as a correlate: Exploratory analysis. *Technia Journal of Management Studies*, *5*(1), 47–63.

Soureli, M., Lewis, B., & Karantinou, K. (2008). Factors that affect consumers' cross-buying intention: A model for financial services. *Journal of Financial Services Marketing*, *13*, 5–16.

Sublaban, C. S. Y., & Aranha, F. (2009). Estimating cell-phone providers' customer equity. *Journal of Business Research*, *62*(9), 891–898.

Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics*. Boston: Allyn and Bacon.

Taylor, S. A., Hunter, G. H., & Longfellow, T. A. (2006). Testing an expanded attitude model of goal-directed behavior in a loyalty context. *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior*, *19*, 18–39.

Ullman, J. B. (2001). Structural equation modeling. In B. G. Tabachnick, & L. S. Fidell (Eds.), *Using multivariate statistics* (pp. 653–771). Boston: Ally & Bacon.

Wallace, D. W., Joan, L. G., & Johnson, J. L. (2004). Customer retailer loyalty in the context of multiple channel strategies. *Journal of Retailing*, *80*(4), 249–263.

Wan, W. P., & Yiu, D. W. (2009). From crisis to opportunity: Environmental jolt, corporate acquisitions, and firm performance. *Strategic Management Journal*, *30*, 791–801.

Zheng, C., O'Neill, G., & Morrison, M. (2009). Enhancing Chinese SME performance through innovative HR practices. *Personnel Review*, *38*(2), 175–194.