

# Effect of Supply Chain Integration on the Business Performance and Competitiveness of the Philippine Small and Medium Enterprises

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Effect of Supply Chain Integration  
on the Business Performance and Competitiveness  
of the Philippine Small and Medium Enterprises

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## **Abstract**

This study aims to determine the effect of supply chain integration on the business performance and competitiveness of small and medium enterprises in the Philippines. A survey of 384 small and medium enterprises was done and structural equation modeling was used to test the hypothesis. Results show that internal integration strongly influences ( $p < 0.001$ ) both business performance (growth) and competitiveness of small and medium enterprises. Moreover, customer integration influences business performance (growth) and internal integration mediates the effect of supplier and customer integration in business performance (growth) and competitiveness of small and medium enterprises.

**Keywords:** Supply chain integration, SMEs, competitiveness, business performance

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# **Effect of supply chain integration on the business performance and competitiveness of the Philippine small and medium enterprises**

**Elaine Quintana Borazon\* and Vivien dela Torre Supangco\*\***

## **I. Introduction**

Competition affects business development and competitiveness determines business prosperity. The small enterprises have potential for resilience to economic situations and are significant contributors to national economic development.

The APEC leaders, in 2016, agreed to create a “development path for APEC technical assistance and capacity building activities that build towards an equitable and inclusive APEC region” (APEC 2016, p. 1). The Asia Pacific Economic Cooperation has formed a Small and Medium Enterprises Working Group (SMEWG) who will work to “encourage the development of SMEs and to build their capacity to engage in international trade” (APEC 2017). The said group shall “promote competitive, balanced, inclusive, sustainable, innovative, and secure growth”. Its priority areas for the year 2017-2020 includes entrepreneurship, innovation and the internet and digital economy; financing for business expansion and capability development; inclusive business ecosystem that supports SME growth; and market access for SMEs (APEC 2016, p. 2). All these factors aid SMEs to be competitive and succeed in the global value chain.

With the advent of the ASEAN integration leading to trade liberalizations, there is a decreased barrier to entry, making the local MSMEs more vulnerable to the arrival of new competitors. In 2016, the Philippine MSMEs account for 99.57 percent of the total establishments in the country, of which 0.44 percent are medium enterprises, 9.50 percent are small enterprises, and 89.63 percent are microenterprises (DTI 2018). Currently, the MSMEs, that are exporting commodities, are already experiencing obstacles related to trading. According to the survey conducted by ITC (2016), the Philippine micro, small, and medium enterprises experience obstacles related to exportation of their products, such as partner’s regulations (technical requirements, conformity assessment,), Philippine regulations (export technical measures, export quantity control), and private standards (certification and other related requirements). These barriers could be addressed by focusing on enhancing the organizational resources and integrating with the whole supply chain. Thus, it is imperative that the supply chain integration factors that contribute to the competitiveness of the local firms be identified in order to assist the firms to survive and grow in their business environment.

According to Kim (2009), supply chain management enhances competitiveness and leads to high supply chain performance in terms of cost, time performance, flexibility, and quality through the integration of internal functions and linkages with the external operations of customers, suppliers, and other stakeholders in the chain. Integration also includes material and product flow from the suppliers to the consumers. It

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requires an intra and inter-company integration across the chain in order for it to perform as a single unit (Alfalla-Luque and Medina-Lopez 2009) and which is driven by the demand of customers (Farhoomad 2005). Past studies (Vickery et al. 2003; Moyano-Fuentes 2010; Frohlich and Westbrook 2001) have shown that a higher level of supply chain integration leads to better organizational performance. A study of Vietnam's manufacturers has shown that their supply chain integration positively affects competitive advantage (Nguyen and Nguyen 2017). Moreover, supply chain integration among Japanese and Korean firms has shown to positively affect firm performance (Narasimhan and Kim 2002). However, according to Sofyalioğlu and Öztürk (2012), few studies testing the direct relationship between supply chain integration and performance exist.

Thus, this study aims to: (1) determine the supply chain integration factors that enhance the performance and competitiveness of small and medium enterprises in the Philippines; (2) show the impact of supply chain integration on enhancing the performance and competitiveness of the small and medium enterprises in the Philippines; and (3) aid policymakers in crafting support interventions to help the small and medium enterprises compete in the midst of the ASEAN integration.

Therefore, this study will show the impact of internal integration, customer integration, and supplier integration on enhancing the performance and competitiveness of small enterprises in the Philippines. This will aid policymakers in crafting support interventions to aid the small enterprises compete in the midst of the ASEAN integration. This will also aid entrepreneurs or managers in improving their strategic resources and thereby increase their chance for competitiveness. This study has a significant importance for entrepreneurship education, entrepreneurial support, and entrepreneurship growth through the contribution of supply chain integration as a source of competitive advantage. This research will also contribute to the collective knowledge on resource-based theory as well as the impact of supply chain integration as a valuable, rare, inimitable, and non-substitutable resource on firm competitiveness. Moreover, research emphasis on the competitiveness of small enterprises as affected by supply internal integration, supplier integration, and customer integration for the small enterprises is very limited and no empirical studies related to the said factors in the Philippines has been done yet.

## **II. Review of Related Literature and Hypothesis Development**

According to Porter (1990), competitiveness is the ability of firms to compete successfully in the business environment. Lall (2001) defines competitiveness as the ability of firms to do better than their competitors in terms of sales, profitability, and market share. Buckley, et al. (1988) claims that competitiveness is synonymous with long-term business performance and the ability to create superior value for the shareholders. In order to create superior value, firms depend on the endowment of their resources and capabilities, as claimed by the resource-based theory (Rangone 1999). Barney (1991; p. 101) defines resources as “assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. that allow the firm to develop strategies benefiting its efficiency and effectiveness.” According to Amit and Schoemaker (1993; p. 35), resources are “stocks of available factors that

are owned or controlled by the firm.” The theory further claims that the differences in business performance of firms are affected by their resources which are unique to the firm (Wernerfelt 1984; Galbreath 2005). Firms implement strategies to manage their resources which then affect their business performance (Daft, Daft, Murphy, and Willmott 2010; Mosakowski 1993). Makadok (2001) claims that the choice of resources of firms affects the economic rent they generate. In order for firms to be at a competitive advantage, the said resources should be rare, valuable, non-substitutable, and perfectly inimitable (Barney 1991; Peteraf 1993; Rumelt 1987). According to Barney (1991), resources become valuable if they contribute to the efficiency and effectiveness of the firm, rare if not all firms have the same resource; inimitable if other firms cannot copy the said resource because of the resource’s social complexity, historical conditions, or causal ambiguity, and nonsubstitutable if the resource cannot be replaced simply by another valuable resource. The said resources contribute to the firm’s competitive advantage and therefore enhance business performance if the firm makes strategic decisions leading to a unique service or product attribute (Gibicus and Kemp 2003; Wernerfelt 1984; Conner 1991; Schulze 1992; Helfat and Peteraf 2003; Amit and Shoemaker 1993; Wernerfelt 1984).

Supply chain integration, according to Flynn et al. (2010), is the degree in which firms strategically collaborates with is chain partners and collaboratively manages inter- and intra-organizational processes. It therefore aims to achieve effective and efficient flow of services, information, products, money, and decisions in order to offer maximum value to the customer (Frohlich and Westbrook 2001). This leads to reductions related to purchasing and distributions and minimal inventory turnover efficiencies (Christopher 1993). Better customer value is also due to strategic performance improvements since supply chain integration allows the firm to provide supply chain members with more customized services that would satisfy their needs. Moreover, supply chain partners purchase higher volume to firms that offer higher customer value (Chen and Dubinsky 2003). Thus, supply chain integration leads to increase in sales and market share. Several studies (Lee 2004; Ragatz et al. 1997; and Frohlich and Westbrook 2001) have emphasized that integration with the downstream customers and upstream suppliers is a source of competitive advantage.

Flynn et al (2010) have identified internal integration, customer integration, and supplier integration as the three main dimensions of supply chain integration. Customer and supplier integration are often termed as external integration and is the degree to which the firm collaborates with the external chain in order to structure processes, practices, and organizational strategies (Stank et al. 2001). Internal integration focuses on the activities of the firm and is the degree to which a firm structures its own processes, practices, and organizational strategies to meet its customer’s requirements (Kingman-Brundage et al. 1995; Cespedes 1996). The structural contingency theory suggests that the firm’s fit with the external environment leads to consistency in the structure and strategies of the firm (Lawrence and Lorsch 1967; Burns and Stalker 1961). As the external environment, such as the characteristics of the suppliers and customer, changes, the firm should be able to respond by implementing strategies that will maintain its fit with the external environment (Kotha and Nair 1995; Hambrick 1983). According to Ketchen and Hult (2007), best value supply chains are considered inimitable resource. Supply

chain integration is a strategic resource that leads to competitive advantage and better organizational performance (Barney 2012). It allows firms to excel on their value-added activities while relying on their supply chain partners to complement the capabilities that the firm lacks (Jin et al. 2013; Dyer and Singh 1998; Fawcett et al. 2007).

Customer integration is collaborating and integrating between the firm and its customers so that downstream organizational activities are managed through joint-decision making, information sharing, and collaborative planning. This allows the firm to have an integration of information and resources from the customers to the decisions and processes of the firm (Vargo 2008). A close relationship with the customer enables the firm to accurately get demand information and therefore reduces obsolescence, failure in production planning, and product design. It also allows the firm to get data about market needs, which lead to better design and development leading to higher level of acceptability (Griffin and Hauser 1996). Moreover, it allows the firm to build a common understanding with its customers and thus helping them achieve better quality of products and process flexibility (Wong et al. 2011; Frohlich and Westbrook 2001; Scannell et al. 2000; Ettl and Reza 1992). Customer integration also offers opportunities for leveraging on the information embedded in the collaboration process and thereby enables the firm to reduce costs, detect demand changes, create more value, and get better operational performance (Wong et al. 2011; Rosenzweig et al. 2003; Scannell et al. 2000). According to Homburg and Stock (2004), customer integration is directly related to customer satisfaction. Thus, it is hypothesized that:

- H1.1: Customer integration positively affects business performance of small and medium enterprises
- H1.2: Customer integration positively affects the competitiveness of small and medium enterprises

Supplier integration is partnership and collaboration with the suppliers in order to manage upstream organizational activities through collaborative planning, information sharing, and joint decision making (Petersen et al. 2003; He et al. 2014). This allows the firm to access competencies and resources outside its organization and decrease transaction costs. It also facilitates mutual understanding between the supplier and the firm (Petersen et al. 2003). Sharing information with the suppliers lead to better operational performance through better product quality, reliable delivery, and flexibility (Frohlich and Westbrook 2001; Rosenzweig et al. 2003; Ettl and Reza 1992; Wong et al. 2011; Huo 2012; Ataseven and Nair 2017; Prajogo et al., 2012). According to Flynn et al. (2010), a strong strategic partnership with the suppliers will enable an understanding and anticipation of the needs of the firm and will help the suppliers meet their changing requirements. The exchange of information between the firm and its suppliers about processes, capabilities, products, and schedule will help the firm improve its delivery performance. Based from the study of Koufteros et al. (2007), supplier integration positively affects product development performance and communications performance. Thus, it is hypothesized that:



H2.1: Supplier integration positively affects business performance of small and medium enterprises

H2.2: Supplier integration positively affects competitiveness of small and medium enterprises

Internal integration includes joint decision-making, collaboration, and information sharing across internal functions, leading to streamlined workflows and collaborative decisions (Wong et al. 2011; Lau et al. 2010). Thus, internal integration decreases functional barriers and allows cooperation among the internal departments of the firm in order to meet customer requirements (Flynn et al. 2010; Kingman-Brundage et al. 1995). It also allows the sharing of knowledge across functional teams and firms (Caridi et al. 2012; Roth 1996). This also helps the firm to improve its capability in order to exploit and coordinate its internal resources. The study by Saeed et al. (2005) shows that there is a positive relationship between internal integration and process efficiency. Past studies have shown that internal integration has a positive effect on firm performance and operational outcomes such as process flexibility, quality, and delivery performance (Narasimhan and Kim 2002; Swink et al. 2007; Lai et al. 2004; Narasimhan et al. 2010; Wong et al. 2011). Thus, it is hypothesized that:

H3.1: Internal integration positively affects business performance of small and medium enterprises

H3.2: Internal integration positively affects competitiveness of small and medium enterprises

Moreover, internal integration mediates the effect of external integration on firm performance (Sanders and Premus 2005). The study by Stank et al. (2010) has shown that firms which are externally focused in terms of information, risk collaboration, measurement, and reward affect logistical performance through the internal collaboration of the firm. If firms need to improve business performance through integration with suppliers and customers, they have to enhance their internal integration. Thus, it is hypothesized that:

H4.1: Internal integration mediates in the relationship between customer integration and business performance of small and medium enterprises

H4.2: Internal integration mediates in the relationship between customer integration and competitiveness of small and medium enterprises

H4.3: Internal integration mediates in the relationship between supplier integration and business performance of small and medium enterprises

H4.4: Internal integration mediates in the relationship between supplier integration and competitiveness of small and medium enterprises

### **III. Methodology**

#### *1. Sources of Data*

Snowball and convenience sampling of 1900 small and medium enterprises (upstream and downstream) from various parts of the Philippines (Aklan, Bulacan, Camarines Sur, Catanduanes, Cebu, Cotabato City, Davao, General Santos, Iloilo, Leyte, NCR, Nueva Vizcaya, Pampanga, Pangasinan, Rizal, Sorsogon) were conducted. Key informants were contacted personally, by e-mail or by phone to get their agreement to participate in the study. Supply chain manager, business owner, CEO/president, or director in each enterprise was targeted as the key informant. The survey questionnaire was emailed or was distributed personally and in-person interviews or self-administration was conducted. Follow-up telephone calls and e-mailings were done to improve the response rate.

Five hundred thirty-five responses were received and 384 were used in this study. Those with incomplete responses were discarded.

#### *2. Research Instrument*

The questionnaire is divided into four parts. The first part contains the demographic information of the respondents while the second part contains items to measure business performance and competitiveness. Business performance (growth) was measured using Likert scale anchored by anchored by much worse (1) to much better (7), while competitiveness was measured using Likert scale anchored on strongly disagree (1) to strongly agree (7). The third part contains a set of items to measure customer integration, supplier integration, and internal integration. Likert scales anchored by strongly disagree to strongly agree were used. The fourth part consists of questions regarding the characteristics of the firm – firm age and firm size (based on the number of employees), (see Appendix A for the instrument).

#### *Dependent variable*

The dependent variables are perceptual and objective measures of business performance (growth) and competitiveness. In terms of business performance, the respondents were asked to rate from much worse to much better than last year the following items: (1) growth in sales, (2) return on sales, (3) growth in return on sales, (4) growth in profit, (5) growth in market share, (6) return on investment; and (7) growth in return on investment. Competitiveness was assessed using a subjective rating relative to the major industry competitors on a seven-point scale. Items include: (1) In relation to my competitors, my company has higher sales; (2) In relation to my competitors, my company has a larger market share; (3) In relation to my competitors, my company gets a higher level of benefits; (4) In relation to my competitors, my company gets a higher return; (5) In relation to my competitors, customer satisfaction in my company is higher; (6) In relation to my competitors, the quality of the products of my company is higher; and (7) In relation to my competitors, my company is technologically superior.

## *Independent variables*

### Customer integration

Customer integration is dealing with customers and understanding their needs and their considerations in the firm's business processes (Thun, 2010). This is measured using a modified versions of the questions developed by Flynn et al. (2010), Alfalla-Luque et al. (2015), Ellinger et al. (2000), Gimenez and Ventura (2005), and Speakman et al. (1998). The respondents were asked to rate from strongly disagree to strongly agree the following sample statements: (1) We frequently are in close contact with our customers; (2) Our customers give us feedback on our quality and delivery performance; (3) Our customers are actively involved in our product design process; (4) We strive to be highly responsive to our customers' needs; and (5) Our customers involve us in their quality improvement efforts. A seven-point Likert scale was used.

### Supplier integration

Supplier integration is defined as having close cooperation with the firm's suppliers (Thun 2010). The respondents were asked to rate from strongly disagree to strongly agree the following sample statements, which were modified from Flynn et al. (2016), Alfalla-Luque et al. (2015), Ellinger et al. (2000), Gimenez and Ventura (2005), and Speakman et al. (1998): (1) We actively engage suppliers in our quality improvement efforts; (2) We maintain cooperative relationships with our suppliers; (3) We help our suppliers to improve their quality; (4) Our key suppliers provide input into our product development projects; and (5) We maintain close communications with suppliers about quality considerations and design changes A seven-point Likert scale was used.

### Internal integration

Internal integration, referred by Kingman-Brundage et al. (1995) and Cespedes (1996) as the activities of the firm and is the degree to which a firm structures its own processes, practices, and organizational strategies to meet its customer's requirements. This was measured using a seven-item scale, modified from Flynn et al. (2016), Alfalla-Luque et al. (2015), Ellinger et al. (2000), Gimenez and Ventura (2005), and Speakman et al. (1998), to assess the information sharing, joint planning and cooperation among the functional teams of the firm. The respondents were asked to rate from strongly disagree to strongly agree the following sample statements: (1) The functions in our company are well integrated; (2) Problems between functions are solved easily in this company; (3) Functional coordination works well in our company; (4) The functions in our company cooperate to solve conflicts between them when they arise; and (5) Our company's departments coordinate their activities.

All instruments used have reliabilities of greater than 0.70, as shown in Table 1. The SME classification or size of the firm served as a control variable to remove confounding effects due to firm size.

**Table 1. Predictor Measures**

<b>Variable</b>	<b>Number of Items</b>	<b>Format</b>	<b>Cronbach's Alpha</b>
Growth	7	Likert-type response scales	0.977
Competitiveness	7	Likert-type response scales	0.931
Customer Integration	7	Likert-type response scales	0.897
Supplier Integration	5	Likert-type response scales	0.872
Internal Integration	17	Likert-type response scales	0.969

### 3. Data Analysis

A descriptive data was generated to obtain the general characteristics of the respondents. Common method bias was assessed through an exploratory factor analysis using principal axis factoring with varimax rotation. A Structural Equation Modelling (SEM) was used to test the hypotheses. The fit of the model was assessed using the Normed Chi-square (CMIN/df), Root Mean Square Error of Approximation (RMSEA), and Comparative Fit Index (CFI).

## IV. Results

Table 2 summarizes the demographic characteristics of the respondents in the study. Firm age ranges from 0.2 years to 88 years old while the number of employees ranges from 1 to 1000. Female managers/owners comprise 58% of the respondents (n=384). Majority of the respondents are from the National Capital Region (38.3%) followed by Pampanga (12.2%), Aklan (8.6%), and Cotabato City (8.1%). In terms of business registration status, 45.1% are sole proprietorship, 33.1% are corporations, and 19.0% are partnerships. In terms of industry classification, 52.6% are restaurants, 18.2% are from wholesale and retail while 11.7% are manufacturing.

**Table 2. Respondent Profile (n = 384)**

<b>Demographic Information</b>	<b>Minimum</b>	<b>Maximum</b>
Firm Age (years)	0.2	88
Number of Employees	1	1000
<b>Characteristics</b>	<b>Frequency</b>	<b>Percent</b>
<b>Gender of Owner/Manager</b>		
Male	162	42
Female	222	58
<b>Location</b>		
Aklan	33	8.6
Bulacan	2	.5
Camarines Sur	27	7.0
Catanduanes	20	5.2
Cebu	1	.3
Cotabato City	31	8.1
Davao	6	1.6
General Santos	6	1.6
Iloilo	10	2.6
Leyte	28	7.3
NCR	149	38.8
Nueva Vizcaya	1	.3
Pampanga	47	12.2
Pangasinan	1	.3
Rizal	21	5.5
Sorsogon	1	.3
<b>Business Registration Status</b>		
Corporation	127	33.1
Partnership	73	19.0
Sole Proprietorship	173	45.1
Others	2	.5
undeclared	9	2.3
<b>Industry Classification</b>		
Agriculture	1	.3
Education	5	1.3
Electricity/gas/water supply	2	.5
Finance	2	.5
Fishing	1	.3
Health and social work	2	.5
Hotel	16	4.2
Hotel/Restaurant	17	4.4
Manufacturing	45	11.7
Others	14	3.6
Real estate	1	.3
Restaurant	202	52.6

Transport, storage, communication	4	1.0
Wholesale and retail trade	70	18.2

The Harman's one-factor test shows that the factor with the highest variance (37.82%) does not account for the majority of the variance and therefore a general factor is absent. Therefore, the variances due to measurement method will not affect the validity of the results of this study. Multicollinearity is absent as all variance inflation factors (VIFs, see Appendix B) are below 10 (Hair et al. 2010). Discriminant validity, which indicates whether a construct is unrelated with another construct (Hair et al. 2010) is established since the Average Variance Extracted (AVE) estimates (see Table 3) of the constructs are greater than the square of the interconstruct correlations (see Table 4).

**Table 3. Average Variance Extracted Estimates**

Construct	Average Variance Extracted Estimate
Growth	0.855
Competitiveness	0.66
Internal Integration(II)	0.62
Supplier Integration (SI)	0.59
Customer Integration (CI)	0.56

**Table 4. Squared Interconstruct Correlation**

	Growth	Competitiveness	II	SI	CI
Growth	1				
Competitiveness	0.36	1			
II			1		
SI			0.398161	1	
CI			0.465124	0.332929	1

The values of the fit indices (see Table 5) of the measurement model show a good fit {Comparative Fit Index (CFI) > 0.90; Root Mean Square Error of Approximation (RMSEA) <0.08; Normed chi-square (CMIN/df) < 2.0}. Comparative Fit Index implies how well the estimated model fits in comparison with some alternative baseline model while the RMSEA and CMIN/df tell how the theory fits well with the sample data (Hair et al. 2010). All the factor loadings of the items associated with the constructs have values of at least 0.70 and are significant and therefore convergent validity was established. The Cronbach Alphas are over 0.70 and therefore construct reliability was successfully verified.

**Table 5. Fit indices**

	<b>Original</b>	<b>Modified</b>	<b>Structural</b>
CMIN/DF	4.763	1.849	1.922
CFI	.717	.960	.957
RMSEA	.099 (.097-.101)	.047(.043-.05)	.049(.045-.053)
X <sup>2</sup>	7835.643	1514.097	1577.911
df	1645	819	821
p	.000	.000	.000

Model equivalents to the CFA models were developed to examine the relationships between competitiveness and growth with customer integration supplier integration, and internal integration. Fit statistics of the structural regression model did not differ significantly. Standardized factor loadings were almost the same. Therefore, model equivalence is verified and the measured indicator variables are stable. These therefore support the model validity of the CFA (Hair et al. 2010).

Table 6 shows the standardized structural path estimates. Two structural path estimates are significant at  $p < 0.05$  and four structural path estimate is significant at  $p < 0.001$  and in the expected direction. Solution of the model produced an acceptable fit.

**Table 6. Standardized structural path estimates**

	<b>Standardized Regression Weights-without mediation</b>	<b>Standardized Regression Weights-with mediation</b>
Business Performance<--- CI	0.288**	0.237*
Business Performance <--- SI	-0.061	-0.055
Business Performance <--- II	0.328**	0.325**
Competitiveness <--- CI	0.215*	0.160
Competitiveness <--- SI	0.000	-0.016
Competitiveness <--- II	0.480**	0.484**
II <--- SI		0.372**
II <--- CI		0.531**

\* significant at  $p < 0.05$

\*\* significant at  $p < 0.001$

## V. Discussion

The results of this study suggest that internal integration strongly influences ( $p < 0.001$ ) both business performance (growth) and competitiveness. Moreover, customer integration influences business performance (growth), but not competitiveness. However, the effect of supplier integration on business performance (growth) and competitiveness is fully mediated by internal integration, and the effect of customer integration on business performance (growth) and competitiveness is partially mediated by internal integration.

Customer integration predicts positive ( $p < 0.05$ ) business performance (growth) of small and medium enterprises because this allows firms to conduct collaborative planning, information sharing, and joint-decision making (Vargo 2008). These enable them to accurately get demand information and prevent them from failing in production planning and product design. Moreover, customer integration gives opportunities for firms to leverage on information embedded in the collaboration process, thereby enabling them to reduce costs, create more value, and have better performance (Wong et al. 2011; Rosenzweig et al. 2003; Scannell et al. 2000).

Supplier integration is supposed to positively affect business performance (growth) and competitiveness of firms as it affects operational performance through reliable delivery, better product quality, and flexibility (Wong et al. 2011; Ettl and Reza 1992; Frohlich and Westbrook 2001; Rosenzweig et al. 2003). This study has shown an absence of direct association between supplier integration and business performance (growth) and competitiveness of firms. While similar studies (Stank et al. 2001; Flynn et al. 2010) show the same results, we have gone further by testing the mediation effect of internal integration on supplier integration and have shown that the effect of supplier integration is realized through internal integration.

Internal integration positively affects ( $p < 0.001$ ) business performance (growth) and competitiveness of small and medium enterprises and this supports other studies conducted by Narasimhan and Kim 2002; Swink et al., 2007; Lai et al. 2004; Narasimhan et al. 2010; Wong et al. 2011. Internal integration allows cooperation among the internal departments of the firms and decreases functional barriers (Flynn et al. 2010; Kingman-Brundage et al. 1995), thereby affecting process efficiency (Saeed et al. 2005). Internal integration also mediates the relationship between external integration (suppliers and customers) and business performance (growth) and competitiveness of the small and medium enterprises. Thus, the effect of external integration (suppliers and customers) on business performance (growth) and competitiveness will work through the internal integration. This implies that the impact of external integration (customer and supplier integration) on business performance and competitiveness will take effect if the internal integration is in place.



## **Conclusion and Policy Recommendations**

This study was designed to determine the effect of supply chain integration on the growth and competitiveness of small and medium enterprises in the Philippines on the basis of resource-based theory. Majority of the respondents in the said study are from the National Capital Region and are from the service/restaurant sector. Thus, the conclusion is industry and geography-specific.

The empirical findings show that customer integration positively affects business performance (growth) while internal integration positively affects both business performance (growth) and competitiveness of the small and medium enterprises. While other studies (Huo 2012; Ataseven and Nair 2017; Prajogo et al. 2012) show direct relationship between supplier integration and business performance (growth) and competitiveness, this study reveals that its effect on the two variables are realized through the effectiveness of internal integration.

This study supports the resource-based theory in explaining the business performance (growth) and competitiveness of small and medium enterprises in the Philippines. SMEs have limited resources to be fully integrated in the whole supply chain and therefore would find opportunities or make strategies according to what they think is effective (Miller 1987).

The finding of this study that internal integration significantly affects business performance (growth) and competitiveness suggests that firms should structure its internal organizational processes and strategies to meet their customer requirements and should promote collaboration and cooperation across their various internal processes in order to achieve better business performance and competitiveness. Internal integration can be attained through functional coordination, integration of internal functions, internal communication, and generating effective operational and production plans. Moreover, firms should integrate with its customers so that downstream organizational activities, such as information sharing, collaborative planning, and joint-decision making can be achieved. Customer integration can be accomplished by getting feedback from the customers regarding quality and delivery performance, getting the involvement of customers in product or service design process, sharing production plans with the customers, and making joint decisions with the key customers. This study implies that all kinds of integration are important but managers should pay particular attention to internal integration because the effectiveness of both customer and supplier integration works through the internal integration of the firm.

The government can aid SMEs in terms of strengthening their internal integration by providing support that will enhance the SMEs' application of management skills, such as the generation of effective operational and production plans and functional coordination. The SMEs should also be encouraged and educated to use information systems that will aid in the integration of various internal processes. The government can invest in technologies, such as Enterprise Application Integration, which will help firms integrate their processes through sharing of information (Charles et al. 2001; Chen et al. 2011). There should also be promotion mechanisms for information technology adoptions, such as educational programs, and the government should serve as a trigger to aid the small and medium enterprises catch up with the rapid

advances in technology. The Taiwan government, for example, has built a national ICT infrastructure that aid their enterprises in supply chain integration by acting as a platform for information sharing across the supply chain (Chen et al. 2011; Wang 1999; Lee and Kim 2007). Assistance in terms of technological capabilities and B2B e-commerce can also enhance the international competencies of SMEs because of efficient business transactions and communications (Chen, et al. 2011). The Department of Trade and Industry has included in its Micro, Small and Medium Enterprise (MSME) Development Plan 2017-2022 the promotion of digital and internet economy under the cross-cutting strategies. The said plan 'welcomes different developments to further pursue its goals by leveraging technological improvements and extending it to all MSMEs'. Moreover, the government should be able to set up an effective mechanism that will unify all regulatory bodies and reduce redundancies and excess costs, which affect supply chain performance.

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## **Appendix A**

### **Survey Questionnaire**

Dear **Respondent:**

Greetings!

We are faculty members from the University of the Philippines-Diliman and are currently conducting a study on 'The effect of supply chain integration on the competitiveness of the Philippine small enterprises'. The said research hopes to aid policymakers in crafting support interventions for sustainable small enterprises. May we ask you to participate in the study by answering the questionnaire attached which will provide the basis of our analyses.

**Rest assured that your responses will be treated confidentially.**

Should you have questions, you may get in touch with us through [elaineqborazon@gmail.com](mailto:elaineqborazon@gmail.com)/[elaineborazon@yahoo.com](mailto:elaineborazon@yahoo.com) or 639286026087. Should you also be interested to know the results of this study, we would be very happy to send you a copy of the research report. Please indicate your email address in the survey questionnaire.

Thank you very much for your cooperation.

Sincerely,

**Elaine Q. Borazon, PhD**  
**Vivien T. Supangco, DBA**

**Part A. Characteristics of the Small enterprise owner/Manager**

**Instructions:** Please put a tick mark corresponding to your answer. Please answer all questions.

Name (Optional): \_\_\_\_\_ Position: \_\_\_\_\_ Email Address:  
\_\_\_\_\_

1. Age: \_\_\_\_\_

2. Gender

<input type="checkbox"/>	Male
<input type="checkbox"/>	Female

3. Highest educational attainment

<input type="checkbox"/>	Elementary
<input type="checkbox"/>	High school
<input type="checkbox"/>	College Major: _____
<input type="checkbox"/>	Masters Major: _____
<input type="checkbox"/>	PhD Major: _____
<input type="checkbox"/>	Others (Please specify) : _____

**Work experience (excluding experience in your own firm)**

4. Years of work experience (excluding experience in your own firm): \_\_\_\_\_

5. In what functional areas of the firm have you mainly gained experience (excluding experience from own firm)? (Check all that apply)

<input type="checkbox"/>	General Management
<input type="checkbox"/>	Marketing/Sales
<input type="checkbox"/>	Human Resource Management
<input type="checkbox"/>	Engineering
<input type="checkbox"/>	Accounting/Finance
<input type="checkbox"/>	Production/Operations
<input type="checkbox"/>	Purchasing/Logistics
<input type="checkbox"/>	Research and Development
<input type="checkbox"/>	Others (please specify): _____

Based from your answer/s in Question 5:

6. How long have you been in the functional areas (excluding experience in your own firm) you had been assigned to? Please specify the number of years for each of your answer in Question 5.

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**Part B. Please evaluate your company's performance (compared with last year) in the following areas:  
(1 = much worse; 7 = much better).**

	Much worse							Much better
	1	2	3	4	5	6	7	
Growth in sales.								
Return on sales (Net income/sales).								
Growth in return on sales.								
Growth in profit.								
Growth in market share.								
Return on investment (ROI).								
Growth in ROI.								

Please evaluate your company's performance in the following areas relative to your competitors:  
(1 =strongly disagree; 7 = strongly agree).

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
	1	2	3	4	5	6	7
In relation to my competitors, my company has higher sales							
In relation to my competitors, my company has a larger market share							
In relation to my competitors, my company gets a higher level of employee benefits							
In relation to my competitors, my company gets a higher return							
In relation to my competitors, customer satisfaction in my company is higher							
In relation to my competitors, the quality of the products of my company is higher							
In relation to my competitors, my company is technologically superior							

What is the net income growth (in percent (%)) of your business? \_\_\_\_\_

Net income growth =  $\frac{((\text{actual net income} - \text{previous net income}) / (\text{previous net income})) \times 100}$

How long (in years or months) did it take you to recover your initial investment?

\_\_\_\_\_

**Part C. Please indicate the extent of integration or information sharing between your organization and your major customer/supplier in the following areas (1 =strongly disagree; 7 = strongly agree).**

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor	Somewhat Agree	Agree	Strongly Agree

				Disagree			
	1	2	3	4	5	6	7
1. We frequently are in close contact with our customers.							
2. Our customers give us feedback on our quality and delivery performance.							
3. Our customers are actively involved in our product or service design process.							
4. We strive to be highly responsive to our customers' needs.							
5. Our customers involve us in their quality improvement efforts.							
6. We work as a partner with our customers.							
7. We have a quick ordering system with our customer.							
8. Our customers share Point of Sales (POS) information with us.							
9. Our customers share demand forecast with us.							
10. We share our available inventory with our major customer.							
11. We do not share our production plan with our major customer.							
12. We make joint decisions with our key customers							
13. We actively engage suppliers in our quality improvement efforts.							
14. We maintain cooperative relationships with our suppliers.							
15. We help our suppliers to improve their quality.							
16. Our key suppliers provide input into our product development projects.							
17. We maintain close communications with suppliers about quality considerations and design changes.							
18. Our suppliers are actively involved in our new product development process.							
19. We do not work as a partner with our suppliers							
	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Somewhat Disagree</b>	<b>Neither Agree nor Disagree</b>	<b>Somewhat Agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
20. We have quick ordering systems with our major supplier.							
21. We strive to establish long-term relationships with suppliers.							
22. We share information on sales forecasts with key suppliers.							
23. We do not share information on production plans with key							

suppliers.							
24. We share information on order tracking and tracing with key suppliers.							
25. We share information on delivery status with key suppliers.							
26. We share information on stock levels with key suppliers.							
27. We make joint decision-making with our key suppliers							
28. The functions in our company are well integrated							
29. Problems between functions are solved easily in this company.							
30. Functional coordination works well in our company.							
31. The departments in our company cooperate to solve conflicts between them when they arise.							
32. Our company's departments coordinate their activities							
33. Our company's departments work interactively with each other							
34. Our managers communicate effectively with managers in other departments.							
35. Our planning system generates operations plans that do not result in functional conflicts.							
36. Everyone in the company works well together							
37. We in the company share our sales forecast with our purchasing department (or with anyone involved in purchasing).							
38. We in the company share our production plans with our purchasing department (or with anyone involved in purchasing).							
39. We in the company share our production progress and stock levels with our purchasing department (or with anyone involved in purchasing).							
	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Somewhat Disagree</b>	<b>Neither Agree nor Disagree</b>	<b>Somewhat Agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
40. We in the company make joint decisions in terms of sales forecast with our purchasing department (or with anyone involved in purchasing).							
41. We in the company make joint decisions in terms of stock level with our purchasing department (or with anyone involved in purchasing).							
42. We in the company make joint							

decisions in terms of production plans with our purchasing department (or with anyone involved in purchasing).							
43. We in the company make joint decisions with our sales department (or with anyone involved in sales).							
44. We in the company do not share information, such as sales forecasts with our sales department (or with anyone involved in sales).							
45. We in the company share information, such as production plans with our sales department (or with anyone involved in sales).							
46. We in the company share information, such as production progress and stock levels, with our sales department (or with anyone involved in sales).							

**Part D. Characteristics of the enterprise**

1. When was your firm established? \_\_\_\_\_
2. How many employees (average number of workers in a year plus management) do you have? \_\_\_\_\_
3. What is your business registration status?

- Sole proprietorship
- Partnership
- Corporation
- Others: \_\_\_\_\_

4. Your SME classification

- Micro (Asset size of less than PhP 3.0M)
- Small (Asset size of PhP 3.0M to 15M)
- Medium (Asset size of PhP15M to 100M)

5. Your industry classification

- Agriculture
- Fishing
- Mining and Quarrying
- Manufacturing: \_\_\_\_\_ (Main product)
- Electricity/gas/water supply

<input type="checkbox"/>	Wholesale and retail trade
<input type="checkbox"/>	Hotels
<input type="checkbox"/>	Restaurants
<input type="checkbox"/>	Transport, storage, communication
<input type="checkbox"/>	Finance (banking, insurance)
<input type="checkbox"/>	Real estate
<input type="checkbox"/>	Education
<input type="checkbox"/>	Health and social work
<input type="checkbox"/>	Others: _____

6. Your industry type (if manufacturer):

- Component manufacturer  
 Final product manufacturer

**Thank you very much for your time!**

## Appendix B Multicollinearity Diagnostics

Model		Coefficients <sup>a</sup>						
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.029	.648		1.588	.113		
	S1	.170	.096	.129	1.770	.078	.367	2.726
	S2	.031	.108	.023	.290	.772	.301	3.321
	S3	.073	.082	.067	.900	.369	.351	2.847
	S4	.119	.107	.080	1.108	.269	.379	2.640
	S5	-.153	.097	-.127	-1.568	.118	.296	3.378
	S6	.011	.091	.009	.115	.908	.317	3.151
	S7	.102	.088	.082	1.167	.244	.396	2.523
	S8	-.100	.063	-.132	-1.576	.116	.277	3.614
	S9	.033	.068	.042	.482	.630	.256	3.913
	S10	.062	.055	.085	1.120	.264	.340	2.939
	S11	-.052	.047	-.066	-1.109	.268	.544	1.838
	S12	.052	.052	.064	1.006	.315	.476	2.102
	S13	-.058	.071	-.055	-.807	.420	.428	2.339
	S14	.185	.111	.137	1.658	.098	.285	3.508
	S15	.131	.099	.103	1.328	.185	.325	3.074
	S16	-.166	.089	-.154	-1.878	.061	.292	3.424
	S17	-.040	.094	-.032	-.422	.673	.335	2.987
	S18	.032	.070	.033	.451	.652	.372	2.686
	S19	-.123	.042	-.185	-2.932	.004	.493	2.030
	S20	.063	.085	.053	.745	.456	.385	2.600
	S21	.050	.085	.039	.582	.561	.445	2.248
	S22	-.050	.058	-.061	-.856	.393	.383	2.610
	S23	.056	.049	.065	1.137	.256	.590	1.695
	S24	.034	.078	.034	.432	.666	.313	3.196
	S25	-.080	.091	-.079	-.878	.381	.239	4.178
	S26	.021	.072	.023	.296	.767	.326	3.066
	S27	-.008	.063	-.010	-.134	.894	.340	2.943
	S28	-.027	.112	-.021	-.239	.811	.248	4.039
	S29	.040	.127	.032	.319	.750	.195	5.122
	S30	.044	.125	.035	.353	.724	.202	4.950
	S31	-.044	.130	-.035	-.339	.735	.188	5.320
	S32	.018	.148	.014	.120	.904	.154	6.480
	S33	.158	.151	.120	1.045	.297	.149	6.712
	S34	-.162	.118	-.125	-1.370	.172	.236	4.239



S35	.038	.106	.030	.358	.721	.286	3.493
S36	-.058	.102	-.042	-.570	.569	.358	2.795
S37	.104	.115	.096	.906	.366	.174	5.755
S38	.029	.119	.027	.245	.806	.166	6.038
S39	-.077	.113	-.065	-.681	.496	.213	4.705
S40	.047	.137	.042	.345	.730	.131	7.637
S41	.007	.165	.006	.042	.967	.096	10.398
S42	.278	.157	.245	1.764	.079	.101	9.867
S43	-.043	.104	-.038	-.415	.678	.240	4.175
S44	-.048	.040	-.071	-1.206	.229	.561	1.783
S45	-.200	.136	-.179	-1.471	.142	.133	7.537
S46	.091	.140	.079	.653	.514	.133	7.524
SME class	.231	.084	.136	2.752	.006	.806	1.241

a. Dependent Variable: Y1

#### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.175	.645		1.822	.069		
	S1	.190	.095	.146	1.990	.047	.367	2.726
	S2	.059	.108	.045	.553	.581	.301	3.321
	S3	.029	.081	.027	.363	.717	.351	2.847
	S4	.061	.107	.041	.566	.572	.379	2.640
	S5	-.082	.097	-.069	-.841	.401	.296	3.378
	S6	-.011	.090	-.009	-.119	.905	.317	3.151
	S7	.085	.087	.069	.972	.332	.396	2.523
	S8	-.018	.063	-.025	-.293	.769	.277	3.614
	S9	.044	.068	.057	.652	.515	.256	3.913
	S10	.022	.055	.030	.399	.690	.340	2.939
	S11	-.002	.047	-.002	-.038	.970	.544	1.838
	S12	.045	.051	.056	.872	.384	.476	2.102
	S13	-.097	.071	-.093	-1.362	.174	.428	2.339
	S14	.129	.111	.097	1.168	.244	.285	3.508
	S15	.190	.098	.151	1.930	.054	.325	3.074
	S16	-.198	.088	-.185	-2.244	.025	.292	3.424
	S17	.063	.093	.052	.678	.499	.335	2.987
	S18	.008	.070	.008	.114	.910	.372	2.686
	S19	-.148	.042	-.225	-3.547	.000	.493	2.030
	S20	.001	.084	.001	.007	.994	.385	2.600
	S21	.010	.085	.008	.121	.904	.445	2.248
	S22	-.038	.058	-.047	-.654	.514	.383	2.610

S23	.070	.049	.083	1.436	.152	.590	1.695
S24	.111	.078	.113	1.420	.157	.313	3.196
S25	-.134	.091	-.134	-1.475	.141	.239	4.178
S26	.002	.071	.002	.022	.982	.326	3.066
S27	.078	.062	.095	1.248	.213	.340	2.943
S28	-.096	.112	-.077	-.861	.390	.248	4.039
S29	.185	.126	.148	1.470	.143	.195	5.122
S30	-.020	.124	-.016	-.159	.874	.202	4.950
S31	-.042	.130	-.033	-.323	.747	.188	5.320
S32	.034	.147	.026	.233	.816	.154	6.480
S33	.154	.150	.118	1.022	.308	.149	6.712
S34	-.158	.117	-.123	-1.343	.180	.236	4.239
S35	.052	.105	.041	.497	.620	.286	3.493
S36	-.156	.102	-.114	-1.528	.128	.358	2.795
S37	.143	.115	.133	1.247	.213	.174	5.755
S38	-.060	.118	-.056	-.510	.610	.166	6.038
S39	-.121	.113	-.104	-1.076	.283	.213	4.705
S40	.002	.136	.002	.013	.990	.131	7.637
S41	.017	.164	.015	.105	.917	.096	10.398
S42	.302	.157	.269	1.927	.055	.101	9.867
S43	.009	.103	.008	.086	.931	.240	4.175
S44	-.033	.039	-.050	-.837	.403	.561	1.783
S45	-.223	.136	-.201	-1.643	.101	.133	7.537
S46	.158	.139	.138	1.132	.259	.133	7.524
SME class	.172	.083	.102	2.062	.040	.806	1.241

a. Dependent Variable: Y2

#### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.664	.660		2.521	.012		
	S1	.147	.098	.111	1.509	.132	.367	2.726
	S2	.029	.110	.022	.267	.790	.301	3.321
	S3	.089	.083	.081	1.073	.284	.351	2.847
	S4	.098	.109	.065	.893	.372	.379	2.640
	S5	-.169	.099	-.139	-1.701	.090	.296	3.378
	S6	-.013	.093	-.011	-.136	.892	.317	3.151
	S7	.074	.089	.058	.827	.409	.396	2.523
	S8	.011	.064	.014	.168	.866	.277	3.614
	S9	.012	.070	.015	.167	.868	.256	3.913
	S10	.051	.056	.069	.899	.369	.340	2.939

S11	.004	.048	.005	.088	.930	.544	1.838
S12	.039	.052	.048	.740	.460	.476	2.102
S13	-.096	.073	-.090	-1.319	.188	.428	2.339
S14	.197	.113	.145	1.740	.083	.285	3.508
S15	.149	.101	.116	1.485	.139	.325	3.074
S16	-.135	.090	-.124	-1.500	.135	.292	3.424
S17	-.057	.095	-.046	-.600	.549	.335	2.987
S18	.011	.072	.011	.157	.875	.372	2.686
S19	-.147	.043	-.218	-3.428	.001	.493	2.030
S20	.035	.086	.029	.406	.685	.385	2.600
S21	.041	.087	.032	.473	.636	.445	2.248
S22	-.055	.059	-.068	-.939	.349	.383	2.610
S23	.022	.050	.026	.450	.653	.590	1.695
S24	.075	.080	.075	.936	.350	.313	3.196
S25	-.102	.093	-.100	-1.095	.274	.239	4.178
S26	-.033	.073	-.035	-.453	.651	.326	3.066
S27	.018	.064	.022	.285	.776	.340	2.943
S28	-.085	.114	-.067	-.744	.458	.248	4.039
S29	.163	.129	.128	1.267	.206	.195	5.122
S30	.013	.127	.010	.105	.916	.202	4.950
S31	-.081	.133	-.063	-.611	.542	.188	5.320
S32	-.058	.150	-.044	-.388	.698	.154	6.480
S33	.224	.154	.168	1.457	.146	.149	6.712
S34	-.103	.120	-.079	-.857	.392	.236	4.239
S35	.092	.108	.071	.854	.394	.286	3.493
S36	-.141	.104	-.100	-1.348	.178	.358	2.795
S37	.171	.117	.156	1.459	.145	.174	5.755
S38	-.075	.121	-.068	-.617	.538	.166	6.038
S39	-.105	.115	-.088	-.907	.365	.213	4.705
S40	.003	.140	.003	.023	.982	.131	7.637
S41	-.018	.168	-.016	-.109	.913	.096	10.398
S42	.351	.160	.307	2.191	.029	.101	9.867
S43	-.043	.106	-.037	-.407	.685	.240	4.175
S44	-.060	.040	-.089	-1.497	.135	.561	1.783
S45	-.230	.139	-.203	-1.656	.099	.133	7.537
S46	.169	.143	.145	1.183	.238	.133	7.524
SME class	.184	.085	.107	2.156	.032	.806	1.241

a. Dependent Variable: Y3

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.980	.670		1.462	.145		
	S1	.197	.099	.147	1.986	.048	.367	2.726
	S2	.045	.112	.033	.402	.688	.301	3.321
	S3	.024	.084	.021	.283	.777	.351	2.847
	S4	.037	.111	.024	.330	.742	.379	2.640
	S5	-.078	.101	-.064	-.777	.438	.296	3.378
	S6	-.021	.094	-.018	-.222	.824	.317	3.151
	S7	.055	.091	.043	.606	.545	.396	2.523
	S8	.072	.066	.093	1.093	.275	.277	3.614
	S9	-.007	.071	-.009	-.101	.919	.256	3.913
	S10	.030	.057	.041	.534	.594	.340	2.939
	S11	.003	.049	.003	.056	.955	.544	1.838
	S12	.013	.053	.015	.236	.814	.476	2.102
	S13	-.105	.074	-.098	-1.425	.155	.428	2.339
	S14	.207	.115	.150	1.794	.074	.285	3.508
	S15	.179	.102	.137	1.750	.081	.325	3.074
	S16	-.203	.092	-.184	-2.219	.027	.292	3.424
	S17	-.016	.097	-.013	-.170	.865	.335	2.987
	S18	.015	.073	.015	.202	.840	.372	2.686
	S19	-.135	.044	-.198	-3.100	.002	.493	2.030
	S20	.046	.088	.038	.524	.601	.385	2.600
	S21	.080	.088	.060	.900	.369	.445	2.248
	S22	-.035	.060	-.043	-.592	.554	.383	2.610
	S23	.040	.051	.046	.790	.430	.590	1.695
	S24	.071	.081	.070	.874	.383	.313	3.196
	S25	-.088	.094	-.086	-.937	.349	.239	4.178
	S26	-.049	.074	-.052	-.669	.504	.326	3.066
	S27	.059	.065	.070	.905	.366	.340	2.943
	S28	-.114	.116	-.089	-.984	.326	.248	4.039
	S29	.137	.131	.106	1.045	.297	.195	5.122
	S30	.062	.129	.048	.481	.631	.202	4.950
	S31	-.003	.135	-.002	-.020	.984	.188	5.320
	S32	-.063	.153	-.047	-.416	.678	.154	6.480
	S33	.258	.156	.191	1.650	.100	.149	6.712
	S34	-.132	.122	-.100	-1.084	.279	.236	4.239
	S35	.036	.110	.027	.325	.746	.286	3.493
S36	-.143	.106	-.101	-1.352	.177	.358	2.795	

S37	.104	.119	.094	.872	.384	.174	5.755
S38	-.102	.123	-.091	-.830	.407	.166	6.038
S39	-.069	.117	-.057	-.585	.559	.213	4.705
S40	.075	.142	.065	.529	.597	.131	7.637
S41	-.133	.170	-.112	-.779	.437	.096	10.398
S42	.335	.163	.290	2.060	.040	.101	9.867
S43	.070	.107	.060	.651	.515	.240	4.175
S44	-.020	.041	-.029	-.493	.623	.561	1.783
S45	-.095	.141	-.082	-.671	.503	.133	7.537
S46	.002	.145	.002	.014	.989	.133	7.524
SME class	.171	.087	.099	1.975	.049	.806	1.241

a. Dependent Variable: Y4

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.926	.671		1.380	.168		
	S1	.327	.099	.241	3.294	.001	.367	2.726
	S2	-.033	.112	-.024	-.293	.770	.301	3.321
	S3	-.006	.084	-.005	-.067	.947	.351	2.847
	S4	.024	.111	.015	.211	.833	.379	2.640
	S5	-.102	.101	-.082	-1.010	.313	.296	3.378
	S6	.051	.094	.042	.538	.591	.317	3.151
	S7	.122	.091	.095	1.346	.179	.396	2.523
	S8	-.042	.066	-.055	-.647	.518	.277	3.614
	S9	.040	.071	.050	.569	.570	.256	3.913
	S10	.098	.057	.131	1.723	.086	.340	2.939
	S11	-.006	.049	-.007	-.115	.909	.544	1.838
	S12	-.002	.053	-.003	-.043	.966	.476	2.102
	S13	-.052	.074	-.048	-.707	.480	.428	2.339
	S14	.073	.115	.053	.632	.528	.285	3.508
	S15	.200	.102	.153	1.961	.051	.325	3.074
	S16	-.124	.092	-.111	-1.356	.176	.292	3.424
	S17	-.050	.097	-.040	-.519	.604	.335	2.987
	S18	.072	.073	.072	.995	.320	.372	2.686
	S19	-.137	.044	-.199	-3.147	.002	.493	2.030
	S20	.007	.088	.006	.083	.934	.385	2.600
	S21	.071	.088	.053	.803	.422	.445	2.248
	S22	-.011	.060	-.013	-.178	.858	.383	2.610
	S23	.000	.051	.000	-.003	.998	.590	1.695

S24	.076	.081	.074	.934	.351	.313	3.196
S25	-.069	.094	-.067	-.735	.463	.239	4.178
S26	-.038	.074	-.040	-.511	.610	.326	3.066
S27	.008	.065	.009	.118	.906	.340	2.943
S28	-.083	.116	-.064	-.714	.476	.248	4.039
S29	.254	.131	.195	1.942	.053	.195	5.122
S30	-.033	.129	-.026	-.260	.795	.202	4.950
S31	-.031	.135	-.023	-.227	.820	.188	5.320
S32	.018	.153	.013	.118	.906	.154	6.480
S33	.246	.156	.181	1.574	.117	.149	6.712
S34	-.176	.122	-.132	-1.443	.150	.236	4.239
S35	-.028	.110	-.021	-.257	.797	.286	3.493
S36	-.088	.106	-.061	-.829	.408	.358	2.795
S37	.043	.119	.039	.364	.716	.174	5.755
S38	-.075	.123	-.066	-.607	.544	.166	6.038
S39	-.125	.117	-.103	-1.069	.286	.213	4.705
S40	.048	.142	.042	.339	.734	.131	7.637
S41	-.077	.170	-.065	-.453	.651	.096	10.398
S42	.281	.163	.240	1.723	.086	.101	9.867
S43	.025	.108	.021	.231	.817	.240	4.175
S44	-.035	.041	-.050	-.850	.396	.561	1.783
S45	-.099	.141	-.085	-.700	.484	.133	7.537
S46	.038	.145	.032	.266	.791	.133	7.524
SME class	.202	.087	.115	2.324	.021	.806	1.241

a. Dependent Variable: Y5

#### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.032	.679		-.048	.962		
	S1	.188	.100	.136	1.872	.062	.367	2.726
	S2	-.005	.113	-.003	-.041	.967	.301	3.321
	S3	.033	.085	.029	.384	.701	.351	2.847
	S4	.059	.113	.038	.525	.600	.379	2.640
	S5	.025	.102	.020	.249	.804	.296	3.378
	S6	-.051	.095	-.042	-.537	.591	.317	3.151
	S7	.093	.092	.071	1.014	.311	.396	2.523
	S8	.021	.066	.026	.316	.752	.277	3.614
	S9	-.055	.072	-.067	-.768	.443	.256	3.913
	S10	.114	.058	.149	1.975	.049	.340	2.939

S11	.017	.049	.020	.336	.737	.544	1.838
S12	.016	.054	.019	.298	.766	.476	2.102
S13	-.025	.075	-.022	-.334	.739	.428	2.339
S14	.034	.117	.024	.289	.773	.285	3.508
S15	.144	.103	.107	1.388	.166	.325	3.074
S16	-.190	.093	-.167	-2.049	.041	.292	3.424
S17	.082	.098	.063	.834	.405	.335	2.987
S18	-.003	.074	-.003	-.046	.963	.372	2.686
S19	-.135	.044	-.192	-3.065	.002	.493	2.030
S20	.084	.089	.067	.947	.345	.385	2.600
S21	.095	.090	.070	1.056	.292	.445	2.248
S22	-.056	.061	-.066	-.924	.356	.383	2.610
S23	.060	.051	.067	1.170	.243	.590	1.695
S24	.121	.082	.116	1.473	.142	.313	3.196
S25	-.134	.096	-.126	-1.399	.163	.239	4.178
S26	-.024	.075	-.024	-.315	.753	.326	3.066
S27	.122	.066	.140	1.855	.065	.340	2.943
S28	-.172	.117	-.129	-1.462	.145	.248	4.039
S29	.211	.133	.158	1.589	.113	.195	5.122
S30	-.060	.131	-.045	-.461	.645	.202	4.950
S31	.000	.136	.000	-.001	.999	.188	5.320
S32	.027	.155	.020	.176	.860	.154	6.480
S33	.102	.158	.073	.641	.522	.149	6.712
S34	-.054	.124	-.040	-.438	.662	.236	4.239
S35	-.020	.111	-.014	-.176	.860	.286	3.493
S36	-.083	.107	-.057	-.777	.438	.358	2.795
S37	.181	.121	.158	1.495	.136	.174	5.755
S38	.033	.125	.029	.268	.789	.166	6.038
S39	-.178	.119	-.143	-1.500	.135	.213	4.705
S40	-.118	.144	-.100	-.820	.413	.131	7.637
S41	.101	.172	.083	.587	.557	.096	10.398
S42	.278	.165	.233	1.684	.093	.101	9.867
S43	-.082	.109	-.067	-.750	.454	.240	4.175
S44	.026	.042	.037	.626	.532	.561	1.783
S45	.021	.143	.018	.146	.884	.133	7.537
S46	.006	.147	.005	.042	.966	.133	7.524
SME class	.242	.088	.135	2.758	.006	.806	1.241

a. Dependent Variable: Y6

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.097	.677		-.143	.886		
	S1	.193	.100	.139	1.928	.055	.367	2.726
	S2	.049	.113	.035	.435	.664	.301	3.321
	S3	.030	.085	.026	.351	.726	.351	2.847
	S4	.043	.112	.027	.379	.705	.379	2.640
	S5	.051	.102	.040	.505	.614	.296	3.378
	S6	-.055	.095	-.045	-.583	.560	.317	3.151
	S7	.109	.091	.082	1.190	.235	.396	2.523
	S8	-.008	.066	-.010	-.125	.900	.277	3.614
	S9	-.032	.072	-.038	-.441	.659	.256	3.913
	S10	.085	.058	.110	1.474	.142	.340	2.939
	S11	.029	.049	.035	.595	.552	.544	1.838
	S12	.041	.054	.048	.755	.451	.476	2.102
	S13	-.031	.075	-.028	-.417	.677	.428	2.339
	S14	.057	.116	.040	.487	.627	.285	3.508
	S15	.128	.103	.095	1.246	.214	.325	3.074
	S16	-.184	.093	-.160	-1.989	.048	.292	3.424
	S17	.067	.098	.051	.681	.496	.335	2.987
	S18	.030	.073	.030	.415	.679	.372	2.686
	S19	-.134	.044	-.189	-3.045	.003	.493	2.030
	S20	.061	.089	.048	.683	.495	.385	2.600
	S21	.086	.089	.063	.963	.336	.445	2.248
	S22	-.075	.061	-.087	-1.236	.217	.383	2.610
	S23	.071	.051	.079	1.387	.166	.590	1.695
	S24	.137	.082	.131	1.675	.095	.313	3.196
	S25	-.113	.095	-.106	-1.189	.235	.239	4.178
	S26	-.035	.075	-.036	-.471	.638	.326	3.066
	S27	.113	.066	.130	1.733	.084	.340	2.943
	S28	-.190	.117	-.142	-1.624	.105	.248	4.039
	S29	.157	.132	.118	1.191	.234	.195	5.122
	S30	.088	.130	.065	.672	.502	.202	4.950
	S31	-.046	.136	-.034	-.335	.738	.188	5.320
	S32	-.040	.154	-.029	-.263	.793	.154	6.480
	S33	.244	.158	.175	1.547	.123	.149	6.712
	S34	-.186	.123	-.135	-1.506	.133	.236	4.239
	S35	.021	.111	.016	.193	.847	.286	3.493
	S36	-.113	.107	-.077	-1.058	.291	.358	2.795
S37	.141	.120	.123	1.172	.242	.174	5.755	



	S38	.002	.124	.002	.019	.985	.166	6.038
	S39	-.193	.118	-.154	-1.631	.104	.213	4.705
	S40	-.024	.143	-.020	-.164	.870	.131	7.637
	S41	.090	.172	.074	.524	.601	.096	10.398
	S42	.318	.164	.265	1.931	.054	.101	9.867
	S43	-.116	.109	-.095	-1.070	.285	.240	4.175
	S44	.005	.041	.007	.117	.907	.561	1.783
	S45	-.114	.142	-.096	-.801	.424	.133	7.537
	S46	.101	.146	.083	.691	.490	.133	7.524
	SME class	.217	.088	.121	2.482	.014	.806	1.241

a. Dependent Variable: Y7

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.581	.565		4.572	.000		
	S1	.235	.084	.198	2.817	.005	.367	2.726
	S2	-.082	.094	-.068	-.874	.383	.301	3.321
	S3	.020	.071	.020	.275	.783	.351	2.847
	S4	-.086	.094	-.064	-.922	.357	.379	2.640
	S5	-.040	.085	-.037	-.476	.634	.296	3.378
	S6	.004	.079	.003	.045	.964	.317	3.151
	S7	.082	.076	.073	1.078	.282	.396	2.523
	S8	-.017	.055	-.025	-.304	.762	.277	3.614
	S9	-.150	.060	-.212	-2.518	.012	.256	3.913
	S10	.028	.048	.043	.586	.559	.340	2.939
	S11	-.129	.041	-.181	-3.148	.002	.544	1.838
	S12	.023	.045	.031	.508	.611	.476	2.102
	S13	-.071	.062	-.074	-1.140	.255	.428	2.339
	S14	.188	.097	.154	1.939	.053	.285	3.508
	S15	-.055	.086	-.048	-.644	.520	.325	3.074
	S16	-.042	.077	-.043	-.545	.586	.292	3.424
	S17	-.103	.082	-.093	-1.266	.206	.335	2.987
	S18	.005	.061	.006	.081	.935	.372	2.686
	S19	-.118	.037	-.194	-3.213	.001	.493	2.030
	S20	.136	.074	.126	1.835	.067	.385	2.600
	S21	.090	.074	.077	1.208	.228	.445	2.248
	S22	-.050	.051	-.067	-.980	.328	.383	2.610
	S23	.071	.043	.092	1.671	.096	.590	1.695
	S24	-.001	.068	-.001	-.013	.990	.313	3.196
	S25	-.100	.079	-.110	-1.265	.207	.239	4.178

S26	.022	.062	.026	.347	.729	.326	3.066
S27	.149	.055	.198	2.721	.007	.340	2.943
S28	.145	.098	.126	1.480	.140	.248	4.039
S29	.046	.110	.040	.416	.677	.195	5.122
S30	-.006	.109	-.005	-.053	.957	.202	4.950
S31	-.033	.113	-.028	-.290	.772	.188	5.320
S32	.005	.129	.004	.036	.971	.154	6.480
S33	-.099	.132	-.082	-.749	.454	.149	6.712
S34	-.104	.103	-.088	-1.011	.313	.236	4.239
S35	.202	.092	.174	2.191	.029	.286	3.493
S36	.126	.089	.100	1.415	.158	.358	2.795
S37	-.050	.100	-.051	-.501	.617	.174	5.755
S38	-.074	.104	-.074	-.711	.477	.166	6.038
S39	.194	.099	.181	1.963	.051	.213	4.705
S40	-.018	.119	-.018	-.154	.878	.131	7.637
S41	.123	.143	.117	.856	.392	.096	10.398
S42	.017	.137	.017	.126	.900	.101	9.867
S43	-.017	.091	-.017	-.193	.847	.240	4.175
S44	-.039	.035	-.065	-1.143	.254	.561	1.783
S45	-.068	.119	-.067	-.571	.568	.133	7.537
S46	.005	.122	.005	.044	.965	.133	7.524
SME class	.003	.073	.002	.047	.963	.806	1.241

a. Dependent Variable: Y8

#### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.425	.600		2.376	.018		
	S1	.236	.089	.184	2.658	.008	.367	2.726
	S2	.101	.100	.077	1.009	.314	.301	3.321
	S3	.064	.076	.060	.852	.395	.351	2.847
	S4	-.213	.099	-.146	-2.146	.033	.379	2.640
	S5	-.067	.090	-.057	-.743	.458	.296	3.378
	S6	.051	.084	.046	.611	.541	.317	3.151
	S7	.052	.081	.043	.647	.518	.396	2.523
	S8	.006	.059	.008	.103	.918	.277	3.614
	S9	-.157	.063	-.206	-2.485	.013	.256	3.913
	S10	.107	.051	.150	2.088	.038	.340	2.939
	S11	-.068	.044	-.088	-1.551	.122	.544	1.838
	S12	.029	.048	.037	.605	.546	.476	2.102
	S13	-.038	.066	-.037	-.578	.564	.428	2.339

S14	-.055	.103	-.042	-.532	.595	.285	3.508
S15	.119	.091	.096	1.305	.193	.325	3.074
S16	-.027	.082	-.026	-.335	.738	.292	3.424
S17	-.085	.087	-.071	-.976	.330	.335	2.987
S18	-.107	.065	-.114	-1.650	.100	.372	2.686
S19	-.099	.039	-.153	-2.555	.011	.493	2.030
S20	.182	.079	.157	2.316	.021	.385	2.600
S21	.083	.079	.066	1.056	.292	.445	2.248
S22	-.070	.054	-.089	-1.306	.193	.383	2.610
S23	.034	.045	.041	.742	.459	.590	1.695
S24	.021	.072	.022	.289	.773	.313	3.196
S25	-.020	.084	-.021	-.240	.811	.239	4.178
S26	-.021	.066	-.023	-.314	.754	.326	3.066
S27	.110	.058	.136	1.888	.060	.340	2.943
S28	.133	.104	.108	1.282	.201	.248	4.039
S29	.002	.117	.002	.020	.984	.195	5.122
S30	-.059	.115	-.048	-.512	.609	.202	4.950
S31	.127	.120	.102	1.057	.291	.188	5.320
S32	-.154	.137	-.121	-1.129	.260	.154	6.480
S33	-.034	.140	-.027	-.245	.806	.149	6.712
S34	-.103	.109	-.081	-.938	.349	.236	4.239
S35	.112	.098	.089	1.137	.257	.286	3.493
S36	.107	.095	.079	1.130	.259	.358	2.795
S37	-.068	.107	-.064	-.635	.526	.174	5.755
S38	.049	.110	.046	.442	.659	.166	6.038
S39	.176	.105	.153	1.675	.095	.213	4.705
S40	.023	.127	.021	.180	.857	.131	7.637
S41	-.014	.152	-.012	-.090	.929	.096	10.398
S42	.163	.146	.148	1.121	.263	.101	9.867
S43	-.056	.096	-.050	-.582	.561	.240	4.175
S44	-.037	.037	-.057	-1.020	.308	.561	1.783
S45	-.162	.126	-.149	-1.289	.198	.133	7.537
S46	.170	.130	.151	1.308	.192	.133	7.524
SME class	.118	.078	.071	1.515	.131	.806	1.241

a. Dependent Variable: Y9

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.245	.622		3.609	.000		
	S1	.145	.092	.116	1.572	.117	.367	2.726
	S2	.170	.104	.133	1.640	.102	.301	3.321
	S3	-.087	.078	-.084	-1.114	.266	.351	2.847
	S4	-.248	.103	-.175	-2.405	.017	.379	2.640
	S5	-.116	.093	-.102	-1.243	.215	.296	3.378
	S6	.087	.087	.079	1.002	.317	.317	3.151
	S7	.131	.084	.110	1.555	.121	.396	2.523
	S8	-.087	.061	-.121	-1.428	.154	.277	3.614
	S9	-.087	.066	-.117	-1.325	.186	.256	3.913
	S10	.108	.053	.156	2.038	.042	.340	2.939
	S11	-.010	.045	-.013	-.212	.833	.544	1.838
	S12	.025	.049	.033	.502	.616	.476	2.102
	S13	.041	.069	.041	.602	.548	.428	2.339
	S14	.147	.107	.115	1.376	.170	.285	3.508
	S15	.051	.095	.043	.543	.587	.325	3.074
	S16	-.062	.085	-.060	-.730	.466	.292	3.424
	S17	-.086	.090	-.074	-.953	.341	.335	2.987
	S18	-.041	.067	-.044	-.602	.548	.372	2.686
	S19	-.097	.040	-.153	-2.402	.017	.493	2.030
	S20	.149	.081	.132	1.830	.068	.385	2.600
	S21	-.025	.082	-.020	-.302	.763	.445	2.248
	S22	-.033	.056	-.043	-.594	.553	.383	2.610
	S23	.003	.047	.003	.056	.955	.590	1.695
	S24	-.024	.075	-.026	-.324	.746	.313	3.196
	S25	-.074	.088	-.077	-.848	.397	.239	4.178
	S26	-.003	.069	-.004	-.051	.960	.326	3.066
	S27	.075	.060	.096	1.253	.211	.340	2.943
	S28	.209	.108	.174	1.942	.053	.248	4.039
	S29	.038	.121	.032	.315	.753	.195	5.122
	S30	.022	.120	.018	.180	.857	.202	4.950
	S31	.172	.125	.141	1.373	.171	.188	5.320
	S32	-.274	.142	-.220	-1.938	.053	.154	6.480
	S33	.208	.145	.165	1.430	.154	.149	6.712
	S34	-.254	.113	-.206	-2.240	.026	.236	4.239
	S35	.088	.102	.072	.868	.386	.286	3.493
	S36	.128	.098	.097	1.305	.193	.358	2.795
S37	.093	.111	.090	.837	.403	.174	5.755	

	S38	-.055	.114	-.053	-.482	.630	.166	6.038
	S39	.031	.109	.028	.286	.775	.213	4.705
	S40	-.014	.132	-.013	-.106	.916	.131	7.637
	S41	.279	.158	.254	1.767	.078	.096	10.398
	S42	-.092	.151	-.086	-.610	.542	.101	9.867
	S43	-.056	.100	-.051	-.561	.575	.240	4.175
	S44	.006	.038	.010	.163	.871	.561	1.783
	S45	-.087	.131	-.082	-.666	.506	.133	7.537
	S46	-.002	.134	-.002	-.015	.988	.133	7.524
	SME class	-.079	.080	-.049	-.979	.328	.806	1.241

a. Dependent Variable: Y10

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.632	.554		2.947	.003		
	S1	.172	.082	.144	2.095	.037	.367	2.726
	S2	-.009	.092	-.007	-.093	.926	.301	3.321
	S3	.024	.070	.025	.350	.726	.351	2.847
	S4	-.150	.092	-.110	-1.630	.104	.379	2.640
	S5	-.034	.083	-.031	-.404	.686	.296	3.378
	S6	-.036	.078	-.035	-.468	.640	.317	3.151
	S7	.098	.075	.087	1.314	.190	.396	2.523
	S8	.028	.054	.041	.515	.607	.277	3.614
	S9	-.088	.058	-.123	-1.502	.134	.256	3.913
	S10	.081	.047	.123	1.727	.085	.340	2.939
	S11	-.028	.040	-.040	-.704	.482	.544	1.838
	S12	.030	.044	.041	.679	.498	.476	2.102
	S13	-.035	.061	-.037	-.576	.565	.428	2.339
	S14	.107	.095	.087	1.120	.264	.285	3.508
	S15	-.033	.084	-.028	-.391	.696	.325	3.074
	S16	-.070	.076	-.072	-.930	.353	.292	3.424
	S17	-.057	.080	-.051	-.709	.479	.335	2.987
	S18	-.011	.060	-.013	-.186	.853	.372	2.686
	S19	-.106	.036	-.174	-2.944	.003	.493	2.030
	S20	.135	.073	.125	1.864	.063	.385	2.600
	S21	.042	.073	.036	.571	.568	.445	2.248
	S22	-.079	.050	-.107	-1.592	.112	.383	2.610
	S23	.011	.042	.014	.261	.795	.590	1.695
	S24	.049	.067	.055	.738	.461	.313	3.196
	S25	-.089	.078	-.097	-1.137	.256	.239	4.178

S26	-.003	.061	-.003	-.048	.962	.326	3.066
S27	.148	.054	.197	2.762	.006	.340	2.943
S28	.064	.096	.056	.667	.505	.248	4.039
S29	.089	.108	.078	.826	.409	.195	5.122
S30	.114	.106	.099	1.074	.284	.202	4.950
S31	.053	.111	.046	.479	.633	.188	5.320
S32	.059	.126	.050	.472	.637	.154	6.480
S33	-.028	.129	-.023	-.218	.828	.149	6.712
S34	-.193	.101	-.164	-1.914	.057	.236	4.239
S35	.167	.091	.144	1.848	.065	.286	3.493
S36	.113	.088	.090	1.296	.196	.358	2.795
S37	.044	.099	.045	.449	.654	.174	5.755
S38	-.095	.102	-.095	-.929	.354	.166	6.038
S39	-.014	.097	-.013	-.141	.888	.213	4.705
S40	-.118	.117	-.116	-1.009	.314	.131	7.637
S41	.161	.141	.153	1.145	.253	.096	10.398
S42	.152	.134	.148	1.132	.258	.101	9.867
S43	-.081	.089	-.077	-.912	.362	.240	4.175
S44	-.019	.034	-.031	-.552	.582	.561	1.783
S45	-.085	.116	-.083	-.732	.465	.133	7.537
S46	.077	.120	.073	.644	.520	.133	7.524
SME class	.046	.072	.030	.647	.518	.806	1.241

a. Dependent Variable: Y11

#### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.736	.533		3.259	.001		
	S1	.096	.079	.088	1.222	.223	.367	2.726
	S2	.024	.089	.021	.267	.790	.301	3.321
	S3	-.139	.067	-.153	-2.069	.039	.351	2.847
	S4	.030	.088	.024	.340	.734	.379	2.640
	S5	.055	.080	.055	.686	.493	.296	3.378
	S6	.093	.075	.096	1.243	.215	.317	3.151
	S7	.037	.072	.035	.507	.612	.396	2.523
	S8	-.010	.052	-.016	-.197	.844	.277	3.614
	S9	-.125	.056	-.192	-2.222	.027	.256	3.913
	S10	.114	.045	.188	2.503	.013	.340	2.939
	S11	-.034	.039	-.051	-.868	.386	.544	1.838
	S12	.006	.042	.008	.131	.896	.476	2.102

S13	.020	.059	.023	.337	.736	.428	2.339
S14	.053	.092	.048	.583	.561	.285	3.508
S15	.063	.081	.060	.781	.435	.325	3.074
S16	.076	.073	.085	1.047	.296	.292	3.424
S17	-.050	.077	-.049	-.651	.516	.335	2.987
S18	-.107	.058	-.133	-1.856	.064	.372	2.686
S19	.020	.035	.037	.586	.558	.493	2.030
S20	.092	.070	.093	1.318	.188	.385	2.600
S21	.022	.070	.021	.313	.754	.445	2.248
S22	-.052	.048	-.077	-1.090	.276	.383	2.610
S23	-.036	.040	-.051	-.896	.371	.590	1.695
S24	.036	.064	.043	.554	.580	.313	3.196
S25	-.084	.075	-.101	-1.124	.262	.239	4.178
S26	.126	.059	.164	2.143	.033	.326	3.066
S27	-.051	.052	-.074	-.988	.324	.340	2.943
S28	.174	.092	.166	1.889	.060	.248	4.039
S29	-.030	.104	-.028	-.286	.775	.195	5.122
S30	.096	.102	.091	.933	.352	.202	4.950
S31	.021	.107	.019	.192	.848	.188	5.320
S32	-.062	.121	-.057	-.509	.611	.154	6.480
S33	-.045	.124	-.041	-.365	.715	.149	6.712
S34	-.127	.097	-.118	-1.311	.191	.236	4.239
S35	-.007	.087	-.007	-.082	.935	.286	3.493
S36	.227	.084	.198	2.702	.007	.358	2.795
S37	-.004	.095	-.004	-.039	.969	.174	5.755
S38	-.006	.098	-.006	-.059	.953	.166	6.038
S39	-.083	.093	-.085	-.893	.373	.213	4.705
S40	-.010	.113	-.011	-.088	.930	.131	7.637
S41	.218	.135	.227	1.611	.108	.096	10.398
S42	.016	.129	.017	.121	.904	.101	9.867
S43	-.015	.085	-.015	-.170	.865	.240	4.175
S44	-.035	.033	-.063	-1.081	.281	.561	1.783
S45	-.026	.112	-.028	-.232	.817	.133	7.537
S46	.021	.115	.022	.184	.854	.133	7.524
SME class	.068	.069	.048	.988	.324	.806	1.241

a. Dependent Variable: Y12

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.885	.530		3.557	.000		
	S1	.073	.078	.066	.929	.353	.367	2.726
	S2	.063	.088	.056	.708	.479	.301	3.321
	S3	-.139	.067	-.151	-2.087	.038	.351	2.847
	S4	.044	.088	.035	.495	.621	.379	2.640
	S5	.139	.080	.138	1.751	.081	.296	3.378
	S6	.059	.074	.060	.792	.429	.317	3.151
	S7	.084	.072	.080	1.176	.241	.396	2.523
	S8	-.071	.052	-.112	-1.364	.173	.277	3.614
	S9	-.142	.056	-.215	-2.530	.012	.256	3.913
	S10	.135	.045	.220	2.983	.003	.340	2.939
	S11	-.043	.038	-.066	-1.126	.261	.544	1.838
	S12	.013	.042	.020	.319	.750	.476	2.102
	S13	.007	.058	.008	.124	.901	.428	2.339
	S14	.059	.091	.052	.650	.516	.285	3.508
	S15	.091	.081	.085	1.122	.263	.325	3.074
	S16	.024	.072	.027	.335	.738	.292	3.424
	S17	.011	.077	.011	.142	.887	.335	2.987
	S18	-.029	.057	-.036	-.505	.614	.372	2.686
	S19	-.008	.034	-.013	-.219	.827	.493	2.030
	S20	.172	.069	.171	2.473	.014	.385	2.600
	S21	-.080	.070	-.074	-1.144	.253	.445	2.248
	S22	-.127	.047	-.185	-2.669	.008	.383	2.610
	S23	-.012	.040	-.017	-.302	.763	.590	1.695
	S24	.071	.064	.085	1.106	.269	.313	3.196
	S25	-.124	.075	-.146	-1.660	.098	.239	4.178
	S26	.099	.058	.127	1.692	.092	.326	3.066
	S27	.022	.051	.032	.437	.662	.340	2.943
	S28	.172	.092	.162	1.873	.062	.248	4.039
	S29	-.024	.103	-.022	-.228	.820	.195	5.122
	S30	-.023	.102	-.021	-.224	.823	.202	4.950
	S31	.032	.106	.030	.298	.766	.188	5.320
	S32	-.084	.121	-.076	-.696	.487	.154	6.480
	S33	-.118	.124	-.106	-.952	.342	.149	6.712
	S34	-.058	.097	-.053	-.603	.547	.236	4.239
	S35	-.051	.087	-.047	-.587	.558	.286	3.493
	S36	.180	.084	.154	2.145	.033	.358	2.795
S37	-.042	.094	-.046	-.449	.653	.174	5.755	



	S38	-.007	.097	-.008	-.075	.940	.166	6.038
	S39	-.031	.093	-.031	-.337	.736	.213	4.705
	S40	.134	.112	.142	1.195	.233	.131	7.637
	S41	.177	.135	.182	1.314	.190	.096	10.398
	S42	.060	.129	.063	.464	.643	.101	9.867
	S43	-.071	.085	-.074	-.839	.402	.240	4.175
	S44	-.003	.032	-.005	-.094	.925	.561	1.783
	S45	-.044	.111	-.046	-.393	.695	.133	7.537
	S46	.019	.114	.020	.168	.866	.133	7.524
	SME class	.011	.069	.008	.163	.870	.806	1.241

a. Dependent Variable: Y13

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.371	.568		2.414	.016		
	S1	.046	.084	.038	.546	.586	.367	2.726
	S2	.099	.095	.080	1.043	.298	.301	3.321
	S3	.083	.071	.083	1.163	.246	.351	2.847
	S4	-.106	.094	-.077	-1.126	.261	.379	2.640
	S5	.057	.085	.052	.663	.508	.296	3.378
	S6	-.047	.080	-.044	-.590	.556	.317	3.151
	S7	.042	.077	.037	.548	.584	.396	2.523
	S8	.008	.055	.011	.141	.888	.277	3.614
	S9	-.078	.060	-.109	-1.303	.193	.256	3.913
	S10	.074	.048	.111	1.536	.126	.340	2.939
	S11	-.013	.041	-.018	-.307	.759	.544	1.838
	S12	.009	.045	.012	.202	.840	.476	2.102
	S13	-.054	.063	-.056	-.869	.385	.428	2.339
	S14	.063	.098	.051	.644	.520	.285	3.508
	S15	.070	.086	.060	.808	.419	.325	3.074
	S16	.041	.078	.041	.523	.602	.292	3.424
	S17	.028	.082	.025	.342	.732	.335	2.987
	S18	.029	.062	.033	.473	.637	.372	2.686
	S19	-.015	.037	-.024	-.398	.691	.493	2.030
	S20	.149	.074	.137	2.006	.046	.385	2.600
	S21	.035	.075	.029	.462	.644	.445	2.248
	S22	-.044	.051	-.059	-.861	.390	.383	2.610
	S23	-.012	.043	-.015	-.277	.782	.590	1.695

S24	.029	.069	.032	.421	.674	.313	3.196
S25	-.081	.080	-.088	-1.011	.313	.239	4.178
S26	-.025	.063	-.030	-.404	.687	.326	3.066
S27	.062	.055	.082	1.127	.261	.340	2.943
S28	.153	.098	.133	1.559	.120	.248	4.039
S29	-.039	.111	-.034	-.356	.722	.195	5.122
S30	.016	.109	.014	.150	.881	.202	4.950
S31	.112	.114	.096	.984	.326	.188	5.320
S32	.122	.129	.102	.943	.346	.154	6.480
S33	-.129	.132	-.107	-.972	.332	.149	6.712
S34	-.215	.103	-.181	-2.080	.038	.236	4.239
S35	.148	.093	.126	1.594	.112	.286	3.493
S36	.008	.090	.006	.089	.929	.358	2.795
S37	-.007	.101	-.007	-.070	.944	.174	5.755
S38	-.058	.104	-.058	-.555	.580	.166	6.038
S39	.008	.099	.007	.079	.937	.213	4.705
S40	-.021	.120	-.020	-.174	.862	.131	7.637
S41	.372	.144	.352	2.580	.010	.096	10.398
S42	-.093	.138	-.090	-.674	.501	.101	9.867
S43	.000	.091	.000	-.001	.999	.240	4.175
S44	-.078	.035	-.127	-2.253	.025	.561	1.783
S45	-.105	.119	-.102	-.879	.380	.133	7.537
S46	.006	.123	.006	.051	.959	.133	7.524
SME class	.008	.073	.005	.110	.912	.806	1.241

a. Dependent Variable: Y14

## Appendix C Harman's Test

Total Variance Explained						
Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	23.070	37.819	37.819	22.515	36.910	36.910
2	5.121	8.395	46.215			
3	3.495	5.730	51.945			
4	2.931	4.805	56.750			
5	2.367	3.881	60.631			
6	2.086	3.419	64.050			
7	1.800	2.951	67.001			
8	1.481	2.428	69.429			
9	1.299	2.130	71.559			
10	1.118	1.833	73.392			
11	.998	1.635	75.027			
12	.893	1.463	76.490			
13	.842	1.380	77.870			
14	.800	1.312	79.181			
15	.727	1.191	80.373			
16	.645	1.058	81.431			
17	.596	.977	82.408			
18	.551	.903	83.311			
19	.537	.881	84.191			
20	.522	.855	85.047			
21	.490	.804	85.851			
22	.483	.792	86.643			
23	.458	.750	87.393			
24	.425	.697	88.090			
25	.401	.658	88.748			
26	.381	.625	89.373			
27	.379	.621	89.994			
28	.363	.594	90.588			
29	.355	.582	91.170			
30	.336	.551	91.721			
31	.314	.514	92.235			
32	.300	.492	92.727			
33	.293	.480	93.207			
34	.278	.455	93.663			
35	.269	.440	94.103			
36	.249	.408	94.511			

37	.229	.375	94.886			
38	.226	.370	95.256			
39	.217	.355	95.611			
40	.208	.341	95.953			
41	.201	.329	96.282			
42	.188	.309	96.591			
43	.180	.296	96.887			
44	.173	.283	97.170			
45	.156	.255	97.425			
46	.149	.245	97.670			
47	.147	.241	97.911			
48	.144	.237	98.147			
49	.137	.225	98.372			
50	.120	.197	98.569			
51	.114	.187	98.756			
52	.111	.182	98.938			
53	.104	.170	99.108			
54	.096	.157	99.265			
55	.095	.155	99.420			
56	.080	.132	99.552			
57	.073	.119	99.671			
58	.062	.102	99.773			
59	.055	.091	99.864			
60	.050	.082	99.946			
61	.033	.054	100.000			

Extraction Method: Principal Axis Factoring.

## Appendix D

### Original CFA Model

Scalar Estimates (Group number 1 - Default model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
CI	<---	Growth	.181	.033	5.450	***	
SI	<---	Growth	.068	.035	1.940	.052	
II	<---	Growth	.138	.030	4.666	***	
CI	<---	Com	.349	.047	7.492	***	
SI	<---	Com	.438	.052	8.452	***	
II	<---	Com	.422	.045	9.358	***	
Y7	<---	Growth	1.000				
Y6	<---	Growth	.982	.034	29.222	***	
Y5	<---	Growth	.975	.032	30.390	***	
Y4	<---	Growth	1.000	.029	34.198	***	
Y3	<---	Growth	.997	.028	35.143	***	
Y2	<---	Growth	.972	.028	34.764	***	
Y1	<---	Growth	.941	.031	30.112	***	
S6	<---	CI	1.000				
S5	<---	CI	.974	.065	15.069	***	
S4	<---	CI	.686	.052	13.295	***	
S3	<---	CI	1.010	.069	14.531	***	
S2	<---	CI	.857	.056	15.259	***	
S1	<---	CI	.829	.058	14.281	***	
S7	<---	CI	.804	.062	12.925	***	
S8	<---	CI	.864	.109	7.952	***	
S9	<---	CI	.724	.105	6.859	***	
S10	<---	CI	.607	.114	5.328	***	
S12	<---	CI	.577	.103	5.607	***	
S46	<---	II	1.000				
S45	<---	II	1.004	.069	14.491	***	
S44	<---	II	-.610	.124	-4.929	***	
S43	<---	II	.994	.067	14.733	***	
S42	<---	II	1.128	.069	16.404	***	
S40	<---	II	1.141	.068	16.858	***	
S39	<---	II	1.021	.065	15.681	***	
S38	<---	II	1.097	.070	15.636	***	
S37	<---	II	1.133	.070	16.098	***	
S36	<---	II	.786	.056	13.933	***	
S35	<---	II	.926	.060	15.442	***	
S34	<---	II	.934	.059	15.775	***	

			Estimate	S.E.	C.R.	P	Label
S33	<---	II	.967	.058	16.806	***	
S32	<---	II	.999	.058	17.348	***	
S31	<---	II	1.014	.059	17.110	***	
S30	<---	II	.988	.060	16.417	***	
S29	<---	II	.960	.061	15.837	***	
S28	<---	II	.930	.061	15.155	***	
S16	<---	SI	1.000				
S15	<---	SI	.770	.056	13.852	***	
S14	<---	SI	.698	.053	13.154	***	
S13	<---	SI	.851	.068	12.543	***	
S17	<---	SI	.815	.058	14.160	***	
S18	<---	SI	1.061	.073	14.623	***	
S20	<---	SI	.771	.060	12.823	***	
S21	<---	SI	.640	.056	11.383	***	
S22	<---	SI	1.029	.089	11.526	***	
S23	<---	SI	-.470	.089	-5.270	***	
S24	<---	SI	.931	.072	12.869	***	
S25	<---	SI	1.007	.070	14.406	***	
S26	<---	SI	1.042	.077	13.530	***	
S27	<---	SI	1.130	.087	13.061	***	
Y8	<---	Com	1.000				
Y9	<---	Com	1.094	.055	19.877	***	
Y10	<---	Com	.997	.056	17.889	***	
Y11	<---	Com	1.072	.050	21.443	***	
Y12	<---	Com	.846	.049	17.154	***	
Y13	<---	Com	.857	.050	17.211	***	
Y14	<---	Com	1.001	.053	19.060	***	
SMEclass	<---	Growth	.120	.031	3.890	***	
SMEclass	<---	Com	-.014	.041	-.344	.731	

**Standardized Regression Weights: (Group number 1 - Default model)**

			Estimate
CI	<---	Growth	.274
SI	<---	Growth	.094
II	<---	Growth	.215
CI	<---	Com	.407
SI	<---	Com	.470
II	<---	Com	.508
Y7	<---	Growth	.911
Y6	<---	Growth	.900
Y5	<---	Growth	.913
Y4	<---	Growth	.947
Y3	<---	Growth	.955

		Estimate
Y2	<--- Growth	.952
Y1	<--- Growth	.910
S6	<--- CI	.769
S5	<--- CI	.754
S4	<--- CI	.675
S3	<--- CI	.730
S2	<--- CI	.762
S1	<--- CI	.719
S7	<--- CI	.658
S8	<--- CI	.419
S9	<--- CI	.363
S10	<--- CI	.284
S12	<--- CI	.299
S46	<--- II	.739
S45	<--- II	.720
S44	<--- II	-.255
S43	<--- II	.731
S42	<--- II	.806
S40	<--- II	.826
S39	<--- II	.774
S38	<--- II	.772
S37	<--- II	.792
S36	<--- II	.695
S35	<--- II	.763
S34	<--- II	.778
S33	<--- II	.823
S32	<--- II	.847
S31	<--- II	.837
S30	<--- II	.806
S29	<--- II	.781
S28	<--- II	.750
S16	<--- SI	.764
S15	<--- SI	.692
S14	<--- SI	.661
S13	<--- SI	.633
S17	<--- SI	.705
S18	<--- SI	.725
S20	<--- SI	.646
S21	<--- SI	.580
S22	<--- SI	.586
S23	<--- SI	-.278
S24	<--- SI	.648
S25	<--- SI	.716
S26	<--- SI	.677

			Estimate
S27	<---	SI	.656
Y8	<---	Com	.825
Y9	<---	Com	.840
Y10	<---	Com	.782
Y11	<---	Com	.881
Y12	<---	Com	.760
Y13	<---	Com	.761
Y14	<---	Com	.817
SMEclass	<---	Growth	.197
SMEclass	<---	Com	-.018

**Intercepts: (Group number 1 - Default model)**

	Estimate	S.E.	C.R.	P	Label
Y7	5.190	.067	77.839	***	
Y6	5.234	.066	78.995	***	
Y5	5.127	.065	78.999	***	
Y4	5.208	.064	81.249	***	
Y3	5.190	.063	81.793	***	
Y2	5.226	.062	84.213	***	
Y1	5.314	.063	84.629	***	
S6	5.722	.052	109.446	***	
S5	5.626	.052	108.368	***	
S4	6.195	.041	151.659	***	
S3	5.481	.056	98.641	***	
S2	5.943	.045	131.631	***	
S1	5.992	.046	129.415	***	
S7	5.842	.049	118.961	***	
S8	4.790	.083	57.771	***	
S9	4.748	.080	59.316	***	
S10	4.475	.086	52.090	***	
S12	4.623	.078	59.565	***	
S46	5.577	.053	105.736	***	
S45	5.540	.054	101.946	***	
S44	3.662	.093	39.235	***	
S43	5.636	.053	106.426	***	
S42	5.626	.055	103.116	***	
S40	5.636	.054	104.719	***	
S39	5.748	.051	111.817	***	
S38	5.652	.055	102.084	***	
S37	5.649	.056	101.356	***	
S36	5.969	.044	135.444	***	
S35	5.808	.047	122.776	***	
S34	5.919	.047	126.605	***	



	Estimate	S.E.	C.R.	P	Label
S33	5.938	.046	129.774	***	
S32	5.899	.046	128.332	***	
S31	5.891	.047	124.707	***	
S30	5.795	.048	121.428	***	
S29	5.805	.048	121.104	***	
S28	5.779	.048	119.620	***	
S16	5.517	.057	96.373	***	
S15	5.813	.049	119.397	***	
S14	5.919	.046	128.069	***	
S13	5.543	.059	94.221	***	
S17	5.891	.051	116.451	***	
S18	5.514	.064	86.215	***	
S20	5.774	.052	110.562	***	
S21	5.992	.048	123.977	***	
S22	4.831	.077	62.922	***	
S23	3.294	.074	44.473	***	
S24	5.229	.063	83.187	***	
S25	5.384	.062	87.545	***	
S26	5.249	.067	78.022	***	
S27	4.935	.075	65.552	***	
SMEclass	1.787	.037	48.428	***	
Y8	5.270	.057	92.693	***	
Y9	5.091	.061	83.328	***	
Y10	5.210	.060	87.190	***	
Y11	5.174	.057	90.677	***	
Y12	5.616	.052	107.543	***	
Y13	5.704	.053	108.017	***	
Y14	5.325	.057	92.639	***	

**Variances: (Group number 1 - Default model)**

	Estimate	S.E.	C.R.	P	Label
e55	1.417	.122	11.629	***	
e64	.845	.087	9.752	***	
e2	.471	.056	8.400	***	
e1	.406	.049	8.255	***	
e3	.566	.067	8.457	***	
e10	.290	.023	12.425	***	
e9	.319	.025	12.603	***	
e8	.270	.022	12.393	***	
e7	.162	.014	11.276	***	
e6	.137	.013	10.816	***	
e5	.139	.013	11.014	***	
e4	.261	.021	12.447	***	

	Estimate	S.E.	C.R.	P	Label
e16	.430	.037	11.561	***	
e15	.446	.038	11.761	***	
e14	.349	.028	12.532	***	
e13	.553	.046	12.042	***	
e12	.328	.028	11.648	***	
e11	.397	.033	12.156	***	
e17	.525	.042	12.648	***	
e18	2.177	.161	13.521	***	
e19	2.136	.157	13.617	***	
e20	2.606	.190	13.718	***	
e21	2.107	.154	13.702	***	
e54	.485	.037	13.263	***	
e53	.546	.041	13.324	***	
e52	3.129	.226	13.822	***	
e51	.501	.038	13.289	***	
e50	.401	.031	12.941	***	
e48	.354	.028	12.797	***	
e47	.407	.031	13.119	***	
e46	.476	.036	13.128	***	
e45	.444	.034	13.023	***	
e44	.386	.029	13.396	***	
e43	.359	.027	13.167	***	
e42	.331	.025	13.099	***	
e41	.259	.020	12.815	***	
e40	.229	.018	12.601	***	
e39	.257	.020	12.702	***	
e38	.306	.024	12.937	***	
e37	.345	.026	13.085	***	
e36	.392	.030	13.220	***	
e25	.524	.043	12.134	***	
e24	.475	.037	12.732	***	
e23	.462	.036	12.908	***	
e22	.796	.061	13.038	***	
e26	.494	.039	12.644	***	
e27	.744	.060	12.495	***	
e28	.611	.047	12.981	***	
e29	.596	.045	13.237	***	
e30	1.486	.112	13.215	***	
e31	1.943	.141	13.754	***	
e32	.880	.068	12.971	***	
e33	.708	.056	12.567	***	
e34	.941	.073	12.817	***	
e35	1.239	.096	12.929	***	
e56	.502	.036	13.844	***	

	Estimate	S.E.	C.R.	P	Label
e57	.397	.033	11.879	***	
e58	.423	.036	11.634	***	
e59	.532	.043	12.396	***	
e60	.279	.026	10.615	***	
e61	.443	.035	12.595	***	
e62	.450	.036	12.581	***	
e63	.422	.035	11.997	***	

### Model Fit Summary

#### CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	181	7438.536	1588	.000	4.684
Saturated model	1769	.000	0		
Independence model	116	22683.957	1653	.000	13.723

#### Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.672	.659	.723	.710	.722
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

#### Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.961	.646	.693
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

#### NCP

Model	NCP	LO 90	HI 90
Default model	5850.536	5585.769	6122.062
Saturated model	.000	.000	.000
Independence model	21030.957	20547.824	21520.530

#### FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	19.371	15.236	14.546	15.943
Saturated model	.000	.000	.000	.000

Model	FMIN	F0	LO 90	HI 90
Independence model	59.073	54.768	53.510	56.043

#### RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.098	.096	.100	.000
Independence model	.182	.180	.184	.000

#### AIC

Model	AIC	BCC	BIC	CAIC
Default model	7800.536	7866.253		
Saturated model	3538.000	4180.283		
Independence model	22915.957	22958.074		

#### ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	20.314	19.624	21.021	20.485
Saturated model	9.214	9.214	9.214	10.886
Independence model	59.677	58.419	60.952	59.787

#### HOELTER

Model	HOELTER	HOELTER
	.05	.01
Default model	87	89
Independence model	30	31

### Modified CFA Model

Scalar Estimates (Group number 1 - Default model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
CI	<---	Growth	.168	.043	3.950	***	par_38
SI	<---	Growth	.098	.046	2.142	.032	par_39
II	<---	Growth	.125	.039	3.196	.001	par_41
CI	<---	Com	.324	.057	5.712	***	par_42
SI	<---	Com	.330	.062	5.328	***	par_43
II	<---	Com	.410	.055	7.488	***	par_45
Y7	<---	Growth	1.000				

			Estimate	S.E.	C.R.	P	Label
Y6	<---	Growth	.978	.018	55.845	***	par_1
Y5	<---	Growth	.990	.035	28.436	***	par_2
Y4	<---	Growth	1.027	.032	32.307	***	par_3
Y3	<---	Growth	1.025	.032	31.980	***	par_4
Y2	<---	Growth	.996	.031	32.175	***	par_5
Y1	<---	Growth	.972	.033	29.222	***	par_6
S6	<---	CI	1.000				
S5	<---	CI	.972	.058	16.816	***	par_7
S4	<---	CI	.741	.053	14.081	***	par_8
S3	<---	CI	.932	.065	14.348	***	par_9
S2	<---	CI	.899	.061	14.660	***	par_10
S1	<---	CI	.848	.064	13.262	***	par_11
S7	<---	CI	.908	.064	14.257	***	par_12
S46	<---	II	1.000				
S45	<---	II	.982	.032	30.857	***	par_13
S43	<---	II	.994	.067	14.827	***	par_14
S42	<---	II	1.125	.066	16.983	***	par_15
S40	<---	II	1.121	.057	19.724	***	par_16
S39	<---	II	1.010	.064	15.717	***	par_17
S38	<---	II	1.074	.070	15.427	***	par_18
S37	<---	II	1.100	.070	15.807	***	par_19
S35	<---	II	.954	.059	16.209	***	par_20
S34	<---	II	.944	.058	16.197	***	par_21
S33	<---	II	.939	.057	16.408	***	par_22
S32	<---	II	.984	.057	17.223	***	par_23
S31	<---	II	.988	.059	16.806	***	par_24
S30	<---	II	.982	.061	16.031	***	par_25
S29	<---	II	.961	.060	15.968	***	par_26
S28	<---	II	.939	.060	15.584	***	par_27
S16	<---	SI	1.000				
S15	<---	SI	.894	.064	13.886	***	par_28
S14	<---	SI	.900	.066	13.532	***	par_29
S17	<---	SI	.954	.066	14.437	***	par_30
S18	<---	SI	1.041	.064	16.291	***	par_31
Y8	<---	Com	1.000				
Y9	<---	Com	1.093	.044	24.832	***	par_32
Y10	<---	Com	.975	.057	16.993	***	par_33
Y11	<---	Com	1.071	.051	20.809	***	par_34
Y12	<---	Com	.825	.054	15.372	***	par_35
Y13	<---	Com	.841	.056	15.023	***	par_36
Y14	<---	Com	.976	.053	18.337	***	par_37
SMEclass	<---	Growth	.122	.040	3.028	.002	par_40
SMEclass	<---	Com	-.018	.052	-.356	.722	par_44
S36	<---	II	.812	.055	14.678	***	par_46

**Standardized Regression Weights: (Group number 1 - Default model)**

			Estimate
CI	<---	Growth	.241
SI	<---	Growth	.137
II	<---	Growth	.182
CI	<---	Com	.370
SI	<---	Com	.366
II	<---	Com	.477
Y7	<---	Growth	.894
Y6	<---	Growth	.880
Y5	<---	Growth	.909
Y4	<---	Growth	.953
Y3	<---	Growth	.960
Y2	<---	Growth	.954
Y1	<---	Growth	.920
S6	<---	CI	.767
S5	<---	CI	.770
S4	<---	CI	.734
S3	<---	CI	.677
S2	<---	CI	.799
S1	<---	CI	.738
S7	<---	CI	.750
S46	<---	II	.751
S45	<---	II	.731
S43	<---	II	.739
S42	<---	II	.829
S40	<---	II	.829
S39	<---	II	.774
S38	<---	II	.761
S37	<---	II	.778
S35	<---	II	.795
S34	<---	II	.796
S33	<---	II	.805
S32	<---	II	.839
S31	<---	II	.822
S30	<---	II	.810
S29	<---	II	.785
S28	<---	II	.768
S16	<---	SI	.738
S15	<---	SI	.776
S14	<---	SI	.825
S17	<---	SI	.798
S18	<---	SI	.688
Y8	<---	Com	.833

			Estimate
Y9	<---	Com	.848
Y10	<---	Com	.775
Y11	<---	Com	.890
Y12	<---	Com	.750
Y13	<---	Com	.765
Y14	<---	Com	.806
SMEclass	<---	Growth	.198
SMEclass	<---	Com	-.024
S36	<---	II	.730

**Intercepts: (Group number 1 - Default model)**

	Estimate	S.E.	C.R.	P	Label
Y7	5.195	.067	78.024	***	par_123
Y6	5.240	.066	79.183	***	par_124
Y5	5.133	.065	79.167	***	par_125
Y4	5.211	.064	81.185	***	par_126
Y3	5.193	.064	81.726	***	par_127
Y2	5.229	.062	84.156	***	par_128
Y1	5.318	.063	84.589	***	par_129
S6	5.724	.054	105.371	***	par_130
S5	5.638	.053	107.158	***	par_131
S4	6.193	.042	147.359	***	par_132
S3	5.482	.057	95.563	***	par_133
S2	5.943	.047	126.860	***	par_134
S1	5.992	.048	125.184	***	par_135
S7	5.839	.050	115.782	***	par_136
S46	5.573	.054	102.619	***	par_137
S45	5.536	.055	101.112	***	par_138
S43	5.633	.055	102.712	***	par_139
S42	5.638	.055	101.922	***	par_140
S40	5.633	.055	102.171	***	par_141
S39	5.745	.053	107.926	***	par_142
S38	5.648	.057	98.256	***	par_143
S37	5.646	.058	97.908	***	par_144
S35	5.810	.049	118.730	***	par_145
S34	5.917	.048	122.363	***	par_146
S33	5.940	.048	124.996	***	par_147
S32	5.901	.048	123.467	***	par_148
S31	5.893	.049	120.353	***	par_149
S30	5.797	.049	117.252	***	par_150

	Estimate	S.E.	C.R.	P	Label
S29	5.807	.050	116.442	***	par_151
S28	5.784	.050	116.131	***	par_152
S16	5.513	.058	94.974	***	par_153
S15	5.812	.049	117.778	***	par_154
S14	5.917	.047	126.684	***	par_155
S17	5.888	.051	114.955	***	par_156
S18	5.510	.065	85.038	***	par_157
SMEclass	1.786	.037	48.385	***	par_158
Y8	5.271	.057	92.471	***	par_159
Y9	5.091	.061	83.116	***	par_160
Y10	5.206	.060	87.151	***	par_161
Y11	5.172	.057	90.467	***	par_162
Y12	5.612	.052	107.451	***	par_163
Y13	5.701	.052	109.188	***	par_164
Y14	5.328	.058	92.625	***	par_165
S36	5.971	.045	131.715	***	par_166

**Covariances: (Group number 1 - Default model)**

	Estimate	S.E.	C.R.	P	Label
Com <--> Growth	.651	.072	9.027	***	par_118
e1 <--> e3	.303	.038	8.032	***	par_47
e2 <--> e1	.295	.035	8.414	***	par_48
e2 <--> e3	.292	.039	7.512	***	par_122
e62 <--> e63	.074	.026	2.848	.004	par_49
e61 <--> e62	.254	.034	7.517	***	par_50
e60 <--> e62	-.044	.021	-2.116	.034	par_51
e59 <--> e60	.073	.028	2.571	.010	par_52
e58 <--> e62	-.081	.031	-2.617	.009	par_53
e58 <--> e61	-.098	.029	-3.370	***	par_54
e57 <--> e62	-.082	.029	-2.783	.005	par_55
e57 <--> e58	.135	.032	4.278	***	par_56
e57 <--> e61	-.073	.028	-2.658	.008	par_57
e23 <--> e27	-.164	.034	-4.800	***	par_58
e24 <--> e23	.029	.029	1.005	.315	par_59
e25 <--> e27	.282	.051	5.548	***	par_60
e25 <--> e23	-.097	.030	-3.259	.001	par_61
e37 <--> e36	.193	.024	8.002	***	par_62
e45 <--> e44	-.008	.016	-.483	.629	par_63
e38 <--> e37	.178	.022	8.100	***	par_64
e39 <--> e37	.032	.013	2.504	.012	par_65
e39 <--> e38	.081	.016	5.048	***	par_66
e40 <--> e39	.133	.019	7.118	***	par_67
e41 <--> e38	.025	.013	2.000	.046	par_68



			Estimate	S.E.	C.R.	P	Label
e41	<-->	e39	.147	.020	7.406	***	par_69
e41	<-->	e40	.168	.020	8.426	***	par_70
e42	<-->	e39	.068	.018	3.766	***	par_71
e42	<-->	e40	.070	.018	3.884	***	par_72
e42	<-->	e41	.146	.021	7.034	***	par_73
e43	<-->	e44	.087	.020	4.248	***	par_74
e46	<-->	e45	.326	.035	9.394	***	par_75
e47	<-->	e45	.239	.030	8.008	***	par_76
e47	<-->	e46	.282	.032	8.856	***	par_77
e50	<-->	e39	-.016	.011	-1.439	.150	par_78
e50	<-->	e40	-.020	.010	-1.989	.047	par_79
e50	<-->	e42	-.029	.012	-2.310	.021	par_80
e50	<-->	e48	.198	.024	8.239	***	par_81
e51	<-->	e37	-.060	.017	-3.613	***	par_82
e51	<-->	e38	-.032	.016	-1.976	.048	par_83
e51	<-->	e41	-.006	.013	-.509	.611	par_84
e51	<-->	e43	-.054	.018	-2.943	.003	par_85
e51	<-->	e48	.154	.026	5.973	***	par_86
e51	<-->	e50	.215	.029	7.315	***	par_87
e53	<-->	e40	-.007	.010	-.664	.507	par_88
e53	<-->	e41	.001	.010	.073	.942	par_89
e53	<-->	e48	.151	.023	6.642	***	par_90
e54	<-->	e38	-.026	.010	-2.505	.012	par_91
e38	<-->	e44	.028	.014	1.919	.055	par_92
e40	<-->	e44	.018	.012	1.494	.135	par_93
e40	<-->	e38	.025	.013	1.841	.066	par_94
e54	<-->	e53	.398	.035	11.420	***	par_95
e12	<-->	e11	.129	.026	4.919	***	par_96
e13	<-->	e17	-.084	.032	-2.581	.010	par_97
e14	<-->	e13	-.024	.025	-.937	.349	par_98
e15	<-->	e17	-.120	.028	-4.288	***	par_99
e15	<-->	e11	-.083	.026	-3.133	.002	par_100
e15	<-->	e12	-.067	.025	-2.691	.007	par_101
e15	<-->	e13	.226	.044	5.176	***	par_102
e16	<-->	e11	-.068	.027	-2.512	.012	par_103
e16	<-->	e12	-.053	.025	-2.128	.033	par_104
e16	<-->	e13	.140	.042	3.336	***	par_105
e16	<-->	e15	.113	.038	2.973	.003	par_106
e9	<-->	e6	-.024	.013	-1.821	.069	par_107
e10	<-->	e5	-.006	.008	-.758	.449	par_108
e10	<-->	e6	-.020	.013	-1.484	.138	par_109
e10	<-->	e9	.280	.026	10.692	***	par_110
e38	<-->	e36	.128	.021	6.147	***	par_111
e48	<-->	e45	.044	.014	3.253	.001	par_112

	Estimate	S.E.	C.R.	P	Label
e51 <--> e45	.025	.020	1.261	.207	par_113
e51 <--> e46	-.060	.019	-3.181	.001	par_114
e7 <--> e4	-.050	.012	-4.244	***	par_115
e56 <--> e3	.007	.025	.268	.789	par_116
e56 <--> e1	.005	.019	.261	.794	par_117
e54 <--> e48	.113	.020	5.649	***	par_119
e53 <--> e50	.091	.016	5.517	***	par_120
e53 <--> e51	.077	.018	4.246	***	par_121

**Correlations: (Group number 1 - Default model)**

	Estimate
Com <--> Growth	.601
e1 <--> e3	.641
e2 <--> e1	.682
e2 <--> e3	.577
e62 <--> e63	.169
e61 <--> e62	.570
e60 <--> e62	-.131
e59 <--> e60	.193
e58 <--> e62	-.194
e58 <--> e61	-.227
e57 <--> e62	-.201
e57 <--> e58	.344
e57 <--> e61	-.176
e23 <--> e27	-.345
e24 <--> e23	.092
e25 <--> e27	.399
e25 <--> e23	-.245
e37 <--> e36	.511
e45 <--> e44	-.018
e38 <--> e37	.518
e39 <--> e37	.098
e39 <--> e38	.263
e40 <--> e39	.479
e41 <--> e38	.081
e41 <--> e39	.489
e41 <--> e40	.598
e42 <--> e39	.218
e42 <--> e40	.240
e42 <--> e41	.461
e43 <--> e44	.247
e46 <--> e45	.629
e47 <--> e45	.511

	Estimate
e47 <--> e46	.586
e50 <--> e39	-.049
e50 <--> e40	-.066
e50 <--> e42	-.083
e50 <--> e48	.543
e51 <--> e37	-.136
e51 <--> e38	-.078
e51 <--> e41	-.016
e51 <--> e43	-.128
e51 <--> e48	.352
e51 <--> e50	.492
e53 <--> e40	-.018
e53 <--> e41	.002
e53 <--> e48	.342
e54 <--> e38	-.065
e38 <--> e44	.081
e40 <--> e44	.060
e40 <--> e38	.086
e54 <--> e53	.776
e12 <--> e11	.369
e13 <--> e17	-.155
e14 <--> e13	-.051
e15 <--> e17	-.280
e15 <--> e11	-.199
e15 <--> e12	-.185
e15 <--> e13	.416
e16 <--> e11	-.157
e16 <--> e12	-.142
e16 <--> e13	.248
e16 <--> e15	.251
e9 <--> e6	-.114
e10 <--> e5	-.029
e10 <--> e6	-.097
e10 <--> e9	.783
e38 <--> e36	.361
e48 <--> e45	.103
e51 <--> e45	.048
e51 <--> e46	-.114
e7 <--> e4	-.274
e56 <--> e3	.013
e56 <--> e1	.011
e54 <--> e48	.267
e53 <--> e50	.206
e53 <--> e51	.147

**Variances: (Group number 1 - Default model)**

	Estimate	S.E.	C.R.	P	Label
Growth	1.358	.121	11.229	***	par_167
Com	.864	.089	9.682	***	par_168
e2	.464	.058	7.983	***	par_169
e1	.404	.049	8.268	***	par_170
e3	.554	.072	7.664	***	par_171
e10	.340	.028	12.164	***	par_172
e9	.377	.030	12.602	***	par_173
e8	.278	.022	12.598	***	par_174
e7	.145	.014	10.449	***	par_175
e6	.121	.012	10.164	***	par_176
e5	.132	.012	11.060	***	par_177
e4	.231	.020	11.772	***	par_178
e16	.466	.046	10.196	***	par_179
e15	.432	.047	9.096	***	par_180
e14	.312	.026	12.171	***	par_181
e13	.683	.060	11.333	***	par_182
e12	.303	.030	10.161	***	par_183
e11	.400	.036	11.184	***	par_184
e17	.426	.037	11.573	***	par_185
e54	.493	.039	12.772	***	par_186
e53	.534	.040	13.478	***	par_187
e51	.523	.041	12.697	***	par_188
e50	.366	.031	11.689	***	par_189
e48	.365	.029	12.480	***	par_190
e47	.436	.035	12.575	***	par_191
e46	.532	.042	12.661	***	par_192
e45	.503	.040	12.640	***	par_193
e43	.337	.027	12.364	***	par_194
e42	.328	.027	12.196	***	par_195
e41	.304	.025	12.123	***	par_196
e40	.258	.022	11.635	***	par_197
e39	.298	.025	12.000	***	par_198
e38	.322	.026	12.303	***	par_199
e37	.366	.029	12.558	***	par_200
e36	.389	.031	12.593	***	par_201
e25	.587	.055	10.777	***	par_202
e24	.371	.037	10.155	***	par_203
e23	.266	.035	7.581	***	par_204
e26	.364	.035	10.411	***	par_205
e27	.847	.074	11.427	***	par_206
e56	.504	.036	13.827	***	par_207
e57	.381	.037	10.221	***	par_208

	Estimate	S.E.	C.R.	P	Label
e58	.405	.041	9.869	***	par_209
e59	.545	.047	11.652	***	par_210
e60	.261	.029	8.964	***	par_211
e61	.457	.039	11.615	***	par_212
e62	.433	.043	9.978	***	par_213
e63	.445	.038	11.844	***	par_214
e44	.368	.029	12.802	***	par_215

**Squared Multiple Correlations: (Group number 1 - Default model)**

	Estimate
SI	.213
II	.365
CI	.301
S36	.533
Y14	.649
Y13	.585
Y12	.562
Y11	.792
Y10	.601
Y9	.719
Y8	.694
SMEclass	.034
S18	.473
S17	.637
S14	.681
S15	.602
S16	.545
S28	.590
S29	.616
S30	.656
S31	.676
S32	.705
S33	.648
S34	.634
S35	.632
S37	.605
S38	.580
S39	.598
S40	.687
S42	.688
S43	.546
S45	.535
S46	.563

	Estimate
S7	.563
S1	.544
S2	.639
S3	.458
S4	.539
S5	.593
S6	.588
Y1	.847
Y2	.910
Y3	.922
Y4	.908
Y5	.827
Y6	.775
Y7	.800

### Model Fit Summary

#### CMIN

Model	NPART	CMIN	DF	P	CMIN/DF
Default model	215	1514.097	819	.000	1.849
Saturated model	1034	.000	0		
Independence model	88	18519.301	946	.000	19.576

#### Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.918	.906	.961	.954	.960
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

#### Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.866	.795	.832
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

#### NCP

Model	NCP	LO 90	HI 90
Default model	695.097	589.633	808.366
Saturated model	.000	.000	.000

Model	NCP	LO 90	HI 90
Independence model	17573.301	17134.575	18018.418

#### FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	3.953	1.815	1.540	2.111
Saturated model	.000	.000	.000	.000
Independence model	48.353	45.883	44.738	47.045

#### RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.047	.043	.051	.903
Independence model	.220	.217	.223	.000

#### AIC

Model	AIC	BCC	BIC	CAIC
Default model	1944.097	2001.346		
Saturated model	2068.000	2343.325		
Independence model	18695.301	18718.733		

#### ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	5.076	4.801	5.372	5.225
Saturated model	5.399	5.399	5.399	6.118
Independence model	48.813	47.667	49.975	48.874

#### HOELTER

Model	HOELTER .05	HOELTER .01
Default model	225	232
Independence model	22	22

## Structural Equation Model

### Scalar Estimates (Group number 1 - Default model)

#### Maximum Likelihood Estimates

#### Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
II	<---	SI	.354	.057	6.246	***	
II	<---	CI	.521	.063	8.264	***	
Growth	<---	CI	.336	.127	2.646	.008	
Growth	<---	SI	-.075	.109	-.687	.492	
Growth	<---	SMEclass	.161	.072	2.231	.026	
Growth	<---	II	.470	.139	3.386	***	
Com	<---	CI	.182	.098	1.864	.062	
Com	<---	SI	-.017	.084	-.207	.836	
Com	<---	SMEclass	-.006	.056	-.105	.917	
Com	<---	II	.561	.110	5.081	***	
Y7	<---	Growth	1.000				
Y6	<---	Growth	.979	.018	55.334	***	
Y5	<---	Growth	.990	.035	28.121	***	
Y4	<---	Growth	1.028	.032	32.013	***	
Y3	<---	Growth	1.025	.032	31.690	***	
Y2	<---	Growth	.996	.031	31.883	***	
Y1	<---	Growth	.971	.034	28.835	***	
S6	<---	CI	1.000				
S5	<---	CI	.972	.058	16.802	***	
S4	<---	CI	.742	.053	14.049	***	
S3	<---	CI	.935	.065	14.366	***	
S2	<---	CI	.900	.061	14.650	***	
S1	<---	CI	.850	.064	13.272	***	
S7	<---	CI	.911	.064	14.261	***	
S46	<---	II	1.000				
S45	<---	II	.982	.032	30.873	***	
S43	<---	II	.994	.066	14.992	***	
S42	<---	II	1.125	.066	17.061	***	
S40	<---	II	1.123	.057	19.816	***	
S39	<---	II	1.009	.064	15.736	***	
S38	<---	II	1.063	.069	15.365	***	
S37	<---	II	1.101	.069	15.876	***	
S35	<---	II	.954	.059	16.249	***	
S34	<---	II	.941	.058	16.175	***	
S33	<---	II	.938	.057	16.443	***	
S32	<---	II	.983	.057	17.241	***	
S31	<---	II	.986	.059	16.820	***	



			Estimate	S.E.	C.R.	P	Label
S30	<---	II	.980	.061	16.024	***	
S29	<---	II	.961	.060	16.020	***	
S28	<---	II	.937	.060	15.589	***	
S16	<---	SI	1.000				
S15	<---	SI	.894	.064	13.888	***	
S14	<---	SI	.900	.066	13.537	***	
S17	<---	SI	.956	.066	14.447	***	
S18	<---	SI	1.041	.064	16.299	***	
Y8	<---	Com	1.000				
Y9	<---	Com	1.098	.045	24.661	***	
Y10	<---	Com	.971	.058	16.639	***	
Y11	<---	Com	1.064	.053	20.142	***	
Y12	<---	Com	.842	.055	15.433	***	
Y13	<---	Com	.851	.057	14.861	***	
Y14	<---	Com	.983	.054	18.208	***	
S36	<---	II	.812	.055	14.713	***	

**Standardized Regression Weights: (Group number 1 - Default model)**

			Estimate
II	<---	SI	.372
II	<---	CI	.531
Growth	<---	CI	.237
Growth	<---	SI	-.055
Growth	<---	SMEclass	.101
Growth	<---	II	.325
Com	<---	CI	.160
Com	<---	SI	-.016
Com	<---	SMEclass	-.005
Com	<---	II	.484
Y7	<---	Growth	.892
Y6	<---	Growth	.879
Y5	<---	Growth	.908
Y4	<---	Growth	.953
Y3	<---	Growth	.960
Y2	<---	Growth	.954
Y1	<---	Growth	.918
S6	<---	CI	.765
S5	<---	CI	.768
S4	<---	CI	.733
S3	<---	CI	.678
S2	<---	CI	.798
S1	<---	CI	.738
S7	<---	CI	.751

			Estimate
S46	<---	II	.751
S45	<---	II	.733
S43	<---	II	.745
S42	<---	II	.831
S40	<---	II	.831
S39	<---	II	.773
S38	<---	II	.758
S37	<---	II	.780
S35	<---	II	.796
S34	<---	II	.794
S33	<---	II	.805
S32	<---	II	.839
S31	<---	II	.822
S30	<---	II	.809
S29	<---	II	.786
S28	<---	II	.767
S16	<---	SI	.738
S15	<---	SI	.776
S14	<---	SI	.825
S17	<---	SI	.799
S18	<---	SI	.688
Y8	<---	Com	.831
Y9	<---	Com	.849
Y10	<---	Com	.770
Y11	<---	Com	.881
Y12	<---	Com	.764
Y13	<---	Com	.771
Y14	<---	Com	.810
S36	<---	II	.731

**Intercepts: (Group number 1 - Default model)**

	Estimate	S.E.	C.R.	P	Label
SMEclass	1.786	.037	48.385	***	
Y7	4.908	.145	33.888	***	
Y6	4.958	.142	34.863	***	
Y5	4.848	.143	33.933	***	
Y4	4.915	.147	33.469	***	
Y3	4.898	.146	33.490	***	
Y2	4.943	.142	34.738	***	
Y1	5.038	.140	36.050	***	
S6	5.724	.054	105.375	***	
S5	5.638	.053	107.169	***	
S4	6.193	.042	147.359	***	

	Estimate	S.E.	C.R.	P	Label
S3	5.482	.057	95.559	***	
S2	5.943	.047	126.860	***	
S1	5.992	.048	125.184	***	
S7	5.839	.050	115.782	***	
S46	5.573	.054	102.576	***	
S45	5.536	.055	101.142	***	
S43	5.633	.054	103.402	***	
S42	5.638	.055	102.109	***	
S40	5.633	.055	102.144	***	
S39	5.745	.053	107.889	***	
S38	5.648	.057	98.683	***	
S37	5.646	.058	97.964	***	
S35	5.810	.049	118.683	***	
S34	5.917	.048	122.276	***	
S33	5.940	.048	124.965	***	
S32	5.901	.048	123.450	***	
S31	5.893	.049	120.331	***	
S30	5.797	.049	117.210	***	
S29	5.807	.050	116.398	***	
S28	5.784	.050	116.091	***	
S16	5.513	.058	94.938	***	
S15	5.813	.049	117.729	***	
S14	5.917	.047	126.624	***	
S17	5.888	.051	114.904	***	
S18	5.510	.065	85.010	***	
Y8	5.281	.115	46.018	***	
Y9	5.103	.125	40.703	***	
Y10	5.216	.114	45.875	***	
Y11	5.183	.120	43.051	***	
Y12	5.621	.099	56.885	***	
Y13	5.709	.100	57.314	***	
Y14	5.338	.114	47.003	***	
S36	5.971	.045	131.695	***	

**Covariances: (Group number 1 - Default model)**

	Estimate	S.E.	C.R.	P	Label
SI <--> CI	.464	.055	8.468	***	
e62 <--> e63	.074	.027	2.732	.006	
e61 <--> e62	.240	.034	7.040	***	
e60 <--> e62	-.041	.022	-1.873	.061	
e59 <--> e60	.088	.030	2.984	.003	
e58 <--> e62	-.089	.032	-2.736	.006	
e58 <--> e61	-.113	.029	-3.856	***	

	Estimate	S.E.	C.R.	P	Label
e57 <--> e62	-.085	.031	-2.787	.005	
e57 <--> e58	.136	.033	4.135	***	
e57 <--> e61	-.084	.028	-3.008	.003	
e23 <--> e27	-.163	.034	-4.782	***	
e24 <--> e23	.030	.029	1.025	.305	
e25 <--> e27	.282	.051	5.563	***	
e25 <--> e23	-.096	.030	-3.233	.001	
e37 <--> e36	.193	.024	8.013	***	
e45 <--> e44	-.012	.016	-.768	.442	
e38 <--> e37	.178	.022	8.118	***	
e39 <--> e37	.032	.013	2.501	.012	
e39 <--> e38	.082	.016	5.098	***	
e40 <--> e39	.134	.019	7.174	***	
e41 <--> e38	.026	.013	2.027	.043	
e41 <--> e39	.147	.020	7.429	***	
e41 <--> e40	.168	.020	8.448	***	
e42 <--> e39	.070	.018	3.847	***	
e42 <--> e40	.072	.018	3.984	***	
e42 <--> e41	.147	.021	7.109	***	
e43 <--> e44	.086	.020	4.201	***	
e46 <--> e45	.320	.034	9.456	***	
e47 <--> e45	.240	.030	8.030	***	
e47 <--> e46	.283	.031	9.077	***	
e50 <--> e39	-.019	.011	-1.676	.094	
e50 <--> e40	-.024	.010	-2.351	.019	
e50 <--> e42	-.024	.012	-1.946	.052	
e50 <--> e48	.191	.024	8.111	***	
e51 <--> e37	-.059	.016	-3.603	***	
e51 <--> e38	-.031	.016	-1.887	.059	
e51 <--> e41	-.007	.013	-.543	.587	
e51 <--> e43	-.053	.018	-2.907	.004	
e51 <--> e48	.146	.025	5.759	***	
e51 <--> e50	.198	.029	6.891	***	
e53 <--> e40	-.007	.010	-.681	.496	
e53 <--> e41	.000	.010	.045	.964	
e53 <--> e48	.152	.023	6.682	***	
e54 <--> e38	-.027	.010	-2.556	.011	
e38 <--> e44	.028	.015	1.954	.051	
e40 <--> e44	.019	.012	1.535	.125	
e40 <--> e38	.026	.013	1.900	.057	
e54 <--> e53	.396	.035	11.413	***	
e12 <--> e11	.129	.026	4.940	***	
e13 <--> e17	-.085	.032	-2.631	.009	
e14 <--> e13	-.025	.025	-.986	.324	

	Estimate	S.E.	C.R.	P	Label
e15 <--> e17	-.119	.028	-4.266	***	
e15 <--> e11	-.082	.026	-3.107	.002	
e15 <--> e12	-.065	.025	-2.610	.009	
e15 <--> e13	.227	.044	5.205	***	
e16 <--> e11	-.067	.027	-2.487	.013	
e16 <--> e12	-.052	.025	-2.056	.040	
e16 <--> e13	.140	.042	3.351	***	
e16 <--> e15	.116	.038	3.061	.002	
e9 <--> e6	-.025	.013	-1.850	.064	
e10 <--> e5	-.006	.008	-.719	.472	
e10 <--> e6	-.020	.013	-1.490	.136	
e10 <--> e9	.281	.026	10.684	***	
e38 <--> e36	.129	.021	6.196	***	
e48 <--> e45	.028	.014	2.008	.045	
e51 <--> e45	.022	.020	1.141	.254	
e51 <--> e46	-.031	.020	-1.529	.126	
e7 <--> e4	-.049	.012	-4.146	***	
e50 <--> e46	.055	.015	3.765	***	
e54 <--> e48	.113	.020	5.605	***	
e53 <--> e50	.089	.016	5.548	***	
e53 <--> e51	.077	.018	4.243	***	

**Correlations: (Group number 1 - Default model)**

	Estimate
SI <--> CI	.680
e62 <--> e63	.171
e61 <--> e62	.557
e60 <--> e62	-.118
e59 <--> e60	.223
e58 <--> e62	-.215
e58 <--> e61	-.271
e57 <--> e62	-.211
e57 <--> e58	.346
e57 <--> e61	-.206
e23 <--> e27	-.343
e24 <--> e23	.094
e25 <--> e27	.400
e25 <--> e23	-.243
e37 <--> e36	.511
e45 <--> e44	-.029
e38 <--> e37	.518
e39 <--> e37	.097
e39 <--> e38	.265

	Estimate
e40 <--> e39	.481
e41 <--> e38	.082
e41 <--> e39	.489
e41 <--> e40	.598
e42 <--> e39	.222
e42 <--> e40	.245
e42 <--> e41	.464
e43 <--> e44	.244
e46 <--> e45	.621
e47 <--> e45	.515
e47 <--> e46	.586
e50 <--> e39	-.057
e50 <--> e40	-.078
e50 <--> e42	-.069
e50 <--> e48	.529
e51 <--> e37	-.139
e51 <--> e38	-.076
e51 <--> e41	-.018
e51 <--> e43	-.129
e51 <--> e48	.343
e51 <--> e50	.463
e53 <--> e40	-.019
e53 <--> e41	.001
e53 <--> e48	.347
e54 <--> e38	-.067
e38 <--> e44	.082
e40 <--> e44	.062
e40 <--> e38	.088
e54 <--> e53	.775
e12 <--> e11	.369
e13 <--> e17	-.158
e14 <--> e13	-.054
e15 <--> e17	-.277
e15 <--> e11	-.196
e15 <--> e12	-.178
e15 <--> e13	.417
e16 <--> e11	-.155
e16 <--> e12	-.136
e16 <--> e13	.248
e16 <--> e15	.256
e9 <--> e6	-.117
e10 <--> e5	-.027
e10 <--> e6	-.098
e10 <--> e9	.783

	Estimate
e38 <--> e36	.363
e48 <--> e45	.067
e51 <--> e45	.045
e51 <--> e46	-.059
e7 <--> e4	-.268
e50 <--> e46	.126
e54 <--> e48	.267
e53 <--> e50	.204
e53 <--> e51	.148

**Variances: (Group number 1 - Default model)**

	Estimate	S.E.	C.R.	P	Label
CI	.662	.080	8.241	***	
SI	.703	.090	7.827	***	
e56	.522	.038	13.838	***	
e64	.199	.027	7.486	***	
e2	.998	.091	11.011	***	
e1	.545	.059	9.192	***	
e10	.341	.028	12.150	***	
e9	.378	.030	12.588	***	
e8	.280	.022	12.598	***	
e7	.144	.014	10.401	***	
e6	.120	.012	10.089	***	
e5	.132	.012	11.029	***	
e4	.234	.020	11.788	***	
e16	.468	.046	10.253	***	
e15	.435	.047	9.179	***	
e14	.313	.026	12.177	***	
e13	.682	.060	11.343	***	
e12	.305	.030	10.215	***	
e11	.399	.036	11.202	***	
e17	.424	.037	11.564	***	
e54	.492	.039	12.780	***	
e53	.532	.039	13.482	***	
e51	.506	.040	12.561	***	
e50	.361	.031	11.824	***	
e48	.360	.029	12.375	***	
e47	.436	.035	12.597	***	
e46	.534	.041	12.932	***	
e45	.499	.040	12.566	***	
e43	.337	.027	12.369	***	

	Estimate	S.E.	C.R.	P	Label
e42	.331	.027	12.239	***	
e41	.304	.025	12.146	***	
e40	.259	.022	11.685	***	
e39	.299	.025	12.044	***	
e38	.324	.026	12.343	***	
e37	.364	.029	12.562	***	
e36	.391	.031	12.611	***	
e25	.589	.055	10.792	***	
e24	.372	.037	10.161	***	
e23	.267	.035	7.609	***	
e26	.363	.035	10.396	***	
e27	.848	.074	11.435	***	
e57	.385	.039	9.961	***	
e58	.401	.042	9.498	***	
e59	.556	.048	11.685	***	
e60	.280	.031	9.148	***	
e61	.436	.039	11.208	***	
e62	.425	.045	9.420	***	
e63	.437	.037	11.705	***	
e44	.367	.029	12.798	***	

**Squared Multiple Correlations: (Group number 1 - Default model)**

	Estimate
SMEclass	.000
II	.689
Com	.366
Growth	.252
S36	.534
Y14	.655
Y13	.595
Y12	.583
Y11	.777
Y10	.593
Y9	.721
Y8	.691
S18	.473
S17	.639
S14	.681
S15	.602
S16	.544
S28	.589
S29	.618
S30	.655



	Estimate
S31	.675
S32	.704
S33	.649
S34	.630
S35	.633
S37	.608
S38	.575
S39	.598
S40	.691
S42	.691
S43	.555
S45	.537
S46	.564
S7	.564
S1	.545
S2	.637
S3	.459
S4	.538
S5	.590
S6	.586
Y1	.843
Y2	.909
Y3	.921
Y4	.908
Y5	.824
Y6	.772
Y7	.796

**Model Fit Summary**

**CMIN**

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	213	1577.911	821	.000	1.922
Saturated model	1034	.000	0		
Independence model	88	18519.301	946	.000	19.576

**Baseline Comparisons**

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.915	.902	.957	.950	.957
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

**Parsimony-Adjusted Measures**

Model	PRATIO	PNFI	PCFI
Default model	.868	.794	.830
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

**NCP**

Model	NCP	LO 90	HI 90
Default model	756.911	648.369	873.234
Saturated model	.000	.000	.000
Independence model	17573.301	17134.575	18018.418

**FMIN**

Model	FMIN	F0	LO 90	HI 90
Default model	4.120	1.976	1.693	2.280
Saturated model	.000	.000	.000	.000
Independence model	48.353	45.883	44.738	47.045

**RMSEA**

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.049	.045	.053	.660
Independence model	.220	.217	.223	.000

**AIC**

Model	AIC	BCC	BIC	CAIC
Default model	2003.911	2060.627		
Saturated model	2068.000	2343.325		
Independence model	18695.301	18718.733		

**ECVI**

Model	ECVI	LO 90	HI 90	MECVI
Default model	5.232	4.949	5.536	5.380
Saturated model	5.399	5.399	5.399	6.118
Independence model	48.813	47.667	49.975	48.874

**HOELTER**

Model	HOELTER .05	HOELTER .01
Default model	216	223
Independence model	22	22