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Intellectual Capital and School Performance: A Study on Private Schools *

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Abstract

The main objective of this study is to analyze both the structure of the intellectual capital in the private schools which are active within the borders of İstanbul province and the relation between this capital and the performance of the school. Data gathered through scales practiced on the administrators of 252 private schools out of 276, which are active in İstanbul province and are regarded as the population of the study, has been used in the analysis. First, descriptive analysis has been applied on the data and the results have been indicated in charts and figures. The assumptions of the models to be used in the future have also been tested within this process. Then, Exploratory and Confirmatory Factor Analyses and Structural Equation Modeling have been utilized for the purpose of testing the hypotheses included in the study. As a result of the analyses, findings on the structure of the intellectual capital related to the private secondary school sector; its components; the relation between the capital and its components; and the direct and indirect effects on school performance have been derived. Findings have been discussed in both theoretical and empirical contexts.

Keywords

Intellectual capital
School performance
Quality school
Human capital
Structural capital
Customer capital
Structural equation modeling

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Introduction

It is observed that the number of studies concerning the assessment of intellectual capital, particularly in terms of administration, increases rapidly as the interest in the concept of intellectual capital increases in business every passing year. In this regard, researches on the effect of intellectual capital on the performance of businesses has also been conducted in recent years (Bontis, Chua Chong Keow, & Richardson 2000).

Intellectual capital includes the culture, the norms, the values and the group dynamics of the business with the competency and abilities of the individuals, the software used and process maps (Ruth & Bukowitz, 2001). Leif Edvinsson, who is known as the first professional intellectual capital administrator, identifies intellectual capital as "the information which can be converted into a kind of value". Edvinsson (1997) the intellectual capital director of a Swedish company "Skandia AFS", emphasizes that the intellectual capital includes invisible assets in the balance; measures the non-measured and reveals the relation between people, ideas and information (Edvinsson, 1997).

In modern-day organizations, where data and qualified human resources are the main input and means of production (Hall, 2003), it is crucially important to acquire; edit and distribute information

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(Duffy, 2001), which means effective information management in short. Particularly in educational institutions, the basic material and main output of which is human, the element "human" comes into prominence in both educational and administrative processes. The management of these abstract assets including human resources, interpersonal relations and institutional memory is of great importance in order to ensure the efficiency in the institution (Karakuş, 2008).

Kelly (2004), introduces a different perspective on intellectual capital management in the school system. He classifies the intellectual capital model for schools under two main titles: "Thinking Capital (human)" and "Non-thinking Capital (structural)" (Kelly, 2004).

He defines thinking capital as the capital created through the competence provided by teachers, students and administers on behalf of the school. Its constituent parts are described to be competence capital, attitude capital and intellectual agility (Kelly, 2004).

- Competence Capital: In general terms, it is related to the educational level of the schools. It consists of the value which is formed through collective or individual knowledge. These components include problem solving skills, technical and academic knowledge, administrative skills, human relations skills, theoretical information background related to education and application-oriented skills. In addition to the routine events, the ability to manage various kinds of groups and tasks; the ability to ensure motivation among colleagues; the ability to develop empathy and the ability to inspire those colleagues in valuing school's benefit above personal interests can be included in this group when education administrators are considered (Kelly, 2004).
- Attitude Capital: In achieving success, it is not enough to have the necessary knowledge and skills to improve school performance and productivity. Teachers need to be guided to use their competence capital not just for their own benefit but for the school's benefit as well. The employees with competence capital need to feel loyalty and maintain positive attitude towards the organization in order to be able to use their skills efficiently, which is crucial for the school. This contributes to creating a supportive business environment and enriching the knowledge. Attitude capital, which takes its source mostly from personal characteristics, consists of the components such as "strategic intent", business ethics and good business behavior (Karakuş, 2008).
- Intellectual Agility: It is the ability to create innovative ideas by identifying common aspects of different information pieces and gathering them in an original way for the sake of school success. The most important resource of the educational institutions is their qualified human capital. It is not only the ability of the administrators and teachers working at the school to create prudential designs; to make correct decisions and to enhance human relations but also their knowledge, their skills and their creativity. Investment on human capital is crucial for the sake of school performance and efficiency (Kelly, 2004).

Non-thinking capital, on the other hand, is defined as structural capital which stands for the capital hidden in the structure and the processes of the organization and remains at school when students, teachers and the other personnel leave for home. The constituent parts are listed as internal organizational capital (infrastructure, culture, processes, structural elements such as database etc.); external organizational capital (the relations with parents and other organizations); innovation and staff development capital (investment plans on building, equipment and staff development) (Kelly, 2004).

Structural capital is defined by Bontis (1998) as "the structure that encourages the employees to display their best intellectual performance and, consequently, enables the business to show the best performance". The name of the school, organizational culture and assets such as utilized educational software, course books, reference books, laboratories, and libraries all form the structural capital of educational institutions. The elements which cannot be moved by the employees and which are used for the success of the students constitute the structural capital of the educational institution (Güler, 2007).

As it has been mentioned in the intellectual capital management process within the school system discussed above, the presence of a relationship between school performance and intellectual capital can be seen. School performance is defined as a concept that represents the effectiveness and the efficiency of various systems beside the education system. Effectiveness mentioned here stands for the achievement of school goals in general terms while efficiency refers to the actualization of the mentioned goals in a timely and effective manner (Maslowski, 2001).

School effectiveness is about the organizational performance of the school. This performance can be evaluated through the outputs of that school such as the average success achieved by the students within a specified period of time. However, the basic problem here, is the nature of assessment at schools besides the difficulty of defining the concept. When the subject is approached from different perspectives, school effectiveness is defined in different ways. For instance, when the subject is discussed in terms of economics, psychology of learning-education and educational sociology, the performance and effectiveness of the school are defined in different ways and the evaluated criteria differ. When the effectiveness of the school is analyzed in terms of economics, mainly the inputs of the school and the resources reserved or used per pupil are dwelled on. As for the process and psychology of learning-education, the main point observed shall be practices on class management such as time management during classes, time allocated for students' learning and teaching-learning methods (using technology in the classroom, new approaches etc.).

When the school is analyzed in terms of educational sociology, the characteristics of the school as an organization or as a social system are mainly dwelled on. At this point, issues such as leadership within the borders of the school, qualification of the students and teachers, social justice and equality may be focused on. When the subject is approached in terms of schools, it can be noted that schools also have some kind of objectives, functions, process, outcomes and outputs just like as the other organizations. Social, academic and emotional, moral and aesthetic development of the students; satisfaction of teachers; effective use of resources; realization of goals and environmental harmony can be mentioned among the outcomes of schools. Furthermore, offences committed at school and the rate of attending and absent students are also included in the scope of the school outcomes. Therefore, the indicators of organizational efficiency and the attempts to assess organizational efficiency and school efficiency shall differ depending on the adopted approach to the definition of the concept of effectiveness (Purkey & Smith, 1983).

Performance management can be argued to be quite successful on the condition that productivity, effectiveness and competence can be mentioned in an educational institution. Former management conceptions used to state the quality of an organization to be the result of the combination of the individual efficiency. However, the recent developments consider efficiency as a synthesis and interaction of individual efficiency rather than the sum of it. Efficiency in education refers to team work, realizing the goals of the school and an organization with a high level of synergies.

Akal (2003) defines performance management as a management process that undertakes the tasks such as gathering data about both the current and projected status of the organization; comparing these gathered data in order to direct the organization to the desired purposes and initiating and maintaining the regulations and operations that are necessary to provide a constant progress in the performance.

Within this context it is seen that school performance and intellectual capital are related to each other. This relationship is supported by the studies in the literature (Kelly, 2004; Cliffordson & Gustafsson, 2008; Holme & Rangel, 2012; Şahin, Durdağı, & Başar, 2014). These mentioned studies prove that school performance and intellectual capital are related. However, some differences concerning the measuring of intellectual capital can be observed among these studies. Today, intellectual capital emphasizes that intangible assets are likely to create greater values when compared with tangible assets in the process of maximizing the market value of the business. As information becomes the most critical production factor and is transformed into a value for the business, it has become very important for information-based assets to be measured and presented as one of the important factors affecting the market value of businesses, like tangible assets (Aşıkoğlu, Kurt, & Özcan, 2008).

Here, one of the main problems of scientific processes interferes in which is the problem of measuring the variables that determine the events of interest. Although it is often possible to measure those variables through common metric, it can be difficult or impossible for some kind of variables such as business ethics, customer satisfaction, intelligence or happiness. Such kind of variables, which are called latent, are measured indirectly with the help of observable data (tests, questionnaires etc.) rather than be observed or measured directly (Schumaker & Lomax, 2004).

Today, organizations are no longer evaluated considering just their tangible assets. They have reached such a position that they are evaluated considering intangible assets such as the qualifications of their employees, network of relationships, efficiency and agility of the organization. The concept "intellectual capital", which is regarded as the sum of such intangible assets, is a latent concept due to its definition and can only be measured through proxy variables or indicators. Numerous methods can be mentioned in order to measure Intellectual Capital such as Balanced Scorecard (Kaplan & Norton, 1992), Capital Index (Roos & Roos, 1997), Technology Broker (Brooking, 1996), Skandia Navigator (Edvinsson, 1997) Intangible Asset Monitor (Sveiby, 2002) and Value Added Intellectual Coefficient (Pulic, 2000). Although afore-mentioned methods essentially involve different approaches, they agree that intellectual capital has three main components, which are human capital; structural capital and relational capital. Human capital means the qualifications such as knowledge, training, experience and the skills that the employees of an organization have. Structural capital is, above all, a necessary condition for effective use of human capital that the organization has and includes any kind of latent asset that is left when the employees go home such as the data that the organization possesses, patents or software (Edvinsson, 1997). Relational capital, on the other hand, stands for any kind of external structures such as customer relationships, supplier relationships or the relations with the other companies (Sınıksaran, Aktükün, & Samioğlu, 2012).

In accordance with afore mentioned understanding this study seeks for the answer to the question "Do the intellectual capitals of private secondary schools indeed possess such a three-component structure?" Moreover, the structure of intellectual capital in terms of its human capital, structural capital and relational capital components and its relation to school performance are analyzed by revealing how the intellectual capital represented by these three components influence the performance of the school in terms of structure and in which aspects this influence can be observed.

Study Hypotheses

In order to investigate whether intellectual capital in education sector has an effect on school performance or not, the hypothesis that intellectual capital has three components (human capital, structural capital and relational capital) in the mentioned sector shall be examined and then the direct effect of these components on the school performance shall be tested. Furthermore, the relationship among these three components and their indirect effects on performance shall also be tested. To put it more explicitly, the hypotheses of the study are as follows:

H_1: Intellectual capital consists of three main components: Human capital, structural capital and relational capital.

H_2: Human capital has a positive and direct effect on school performance.

H_3: Structural capital has a positive and direct effect on school performance.

H_4: Relational capital has a positive and direct effect on school performance.

H_5: Human capital has a positive and direct effect on relational capital.

H_6: Structural capital has a positive and direct effect on relational capital.

H_7: Structural capital has a positive and direct effect on human capital.

H_8: Human capital has a positive and indirect effect on school performance.

H_9: Structural capital has a positive and indirect effect on school performance.

Method

Scale Used in the Study

The study is grounded on the scale developed by Nick Bontis (1998) for the study "Intellectual Capital: An Exploratory Study that Develops Measures and Models". The scale developed by Bontis (1998) to be used in the mentioned study consists of four parts. First part includes 20 questions on human capital, 17 questions on relational capital and 16 questions on structural capital with a sum of 53 questions. Second part includes 10 questions aiming at evaluating organizational performance.

While applying the scale developed by Bontis (1998) to education sector, some changes have been made, some questions have been deleted and some questions have been added in order to ensure that the scale is suitable for the sector. The latest version of the scale consists of three parts: First part inquires about the general characteristics of the schools and some demographic data. Second part evaluates intellectual capital through 64 questions 19 of which are on human capital, 22 on relational capital, and 23 on structural capital. As for the third part, which is the last one, school performance is evaluated in general through 11 questions.

The acronym "HC" stands for human capital, "RC" for relational capital, "SC" for structural capital and "p" for performance within the study. Thereby, "HC5" means for instance, the fifth item of the scale and states that the item measures human capital.

A 10-point Likert scale is used in the scale. The statements related to intellectual capital are ranged in the scale within the study as "1 = strongly disagree" and "10 = strongly agree". The items related to the scoring of school performance are ranged between 1 (the lowest score) and 10 (the highest score). The variables HC5, SC13, SC29, HC36, RC38, HC39, HC40, SC42 and HC50 included in the scale are reverse coded variables. While being utilized in the analysis the answers given for the mentioned variables are transformed into regular scoring (1 transformed into 10, 9 into 2 for instance). The data collection tool used in the study is enclosed.

Study Group

As the intellectual capital- school performance relation in private secondary schools is to be basically evaluated from an administrative point of view, the population of the study consists of senior staff of the 276 private schools located in İstanbul province. The term "senior staff" includes general directors of the schools, grant holders, general coordinators and school directors. Only one authorized administrator from each secondary school has filled out the scale form within the scope of the study. During sampling process, instead of picking a sample from the population, for the sake of the reliability of the statistical methods that are to be used, utilizing total population sampling method has been aimed but since 252 authorized personnel out of 276 have replied, the sample has been converted into study group. For this purpose, the governorate has been applied by petition for the permit so that the scale can be carried out at mentioned schools. Scale forms have been sent electronically to the school administrations and 252 authorized personnel out of 276 have replied. The data from these 252 schools have been used in the study.

Research Method

"Field research method" has been used in the study. Field research method is defined as an inductive method that aims to collect data in order to develop new hypotheses rather than collecting data related to existing hypotheses (Seyidoğlu, 1995, p. 28). Primary data have been gathered using the scale forms and they have been analyzed through appropriate statistical methods. Structural equation modeling (SEM) has been utilized in order to state the relationship between intellectual capital and school performance in detail.

SEM is a multivariate statistical method that reveals the casual relationships among latent variables. SEM includes multivariate analysis method such as factor analysis, variance analysis and regression analysis effectively (Byrne, 2001).

As intellectual capital is a latent concept that cannot be directly observed and it is thought to influence another latent concept "performance", the study has been carried out utilizing SEM.

The main reason for employing SEM is that the method allows to work with latent variables. Another reason is that the method enables the theories related to the facts of interest to be considered while modeling and updating, when necessary. Since there exists an advanced theory in the literature related to intellectual capital, SEM is considered to be an attractive option in this sense. However, before SEM had been applied, descriptive analyses were carried out. Exploratory and Confirmatory Factor Analyses has been utilized for the purpose of reducing some questions included in the scale and for the purpose of setting models. (Altan, 2014)

Data Collection Tools Utilized in the Study

In this section, Exploratory and Confirmatory Factor Analyzes related to the Intellectual Capital Scale and the School Performance Scale which are developed by the researcher are included.

Findings Related to Exploratory Factor Analysis (EFA) of the Intellectual Capital Scale

Factor analysis has been carried out in order to provide structural validity of the Intellectual Capital Scale and for the purpose of obtaining a functional sizing (Büyüköztürk, 2011) by determining the factor loads of the scale items. Before applying the factor analysis the data has been observed using Kaiser-Meyer-Olkin criterion (KMO) and Bartlett's test to understand whether it has a factorial analytic structure or not. KMO score of the scale that consists of 64 items has been found to be 0.943 and Bartlett's test to be $\chi 2$= 5465,356 ($p \leq .05$). KMO result, which is higher than 0. 60 and Bartlett's test result, which is meaningful, shows that the data are suitable for the factor analysis (Büyüköztürk, 2011). Eigenvalues of scale items have been calculated as a result of the factor analysis applied (Table 1).

Table 1. Factor Analysis Results Related to the Scale

Factors	Factor Eigenvalues	Expressed Variance %	Cumulative Variance %
1	5,432	33,324	33,324
2	4,332	18,256	51,580
3	1,765	8,452	60,032
4	1,202	4,013	64,045
5	1,023	3,234	67,279

The variance of the five factors, eigenvalues of which are higher than 1.00 according to the data gathered from factor analysis, is expressed as 67.279 %. In order to decide how many factors the scale shall be consisted of, scree plot has been observed (Figure 1).

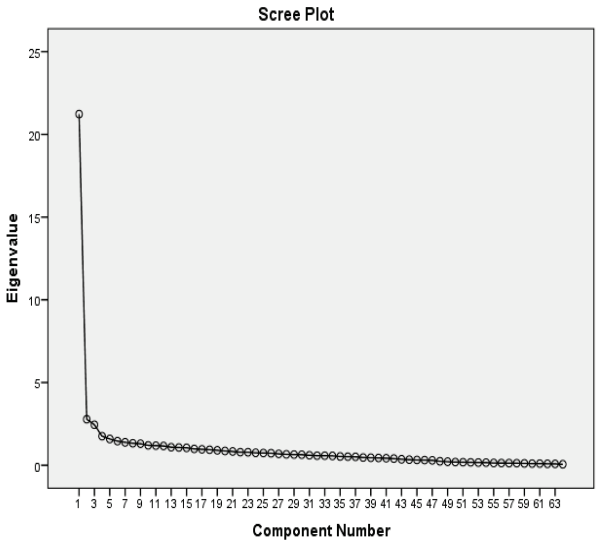

Figure 1. Scree Plot for Exploratory Factor Analysis

Scree Plot is used for deciding the number of the factors. The vertical axis indicates the eigenvalues and the horizontal axis indicates the factors. Points with vertical slope on the chart are considered whereas the planar points with straight slope are ignored. A horizontal line is drawn from the point where the graph is horizontal. The gap between points which are above this horizontal line is assumed as the size. The factor that shows a rapid fall with high acceleration gives the number of the important factors (Can, 2014). After analyzing the scree plot in Figure 1 the scale has been decided to include three factors. Because, the total variance is expected to clarify the scale items between the range of 40 % and 60 % in social sciences (Can, 2014). Within this context the scale has been decided to include 3 factors so that the study shall fit its purpose since the total number of the size is expected to have 3 factors. Upon deciding the number of the factors, as a consequence of second factor analysis the items 2, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 18, 19, 21, 24, 25, 26, 27, 28, 39, 41, 43, 44, 45, 46, 49, 50, 53, 55, 60 and 61 factor load of which are below 0.50 and the items 15, 16, 17, 22, 30, 33, 40, 41, 47, 51, 54, 57 and 64 the difference between two factors of which are below 0.10 have been removed from the scale. According to the field of study literature an item having 0.40 or a higher factor load value is an appropriate criterion for an item to be picked. On the other hand, when an item indicates a high factor load for two factors, the difference between these mentioned factor loads should be at least 0.10 to avoid overlapping (Can, 2014). After omitting the items that do not meet the mentioned criteria another factor analysis has been performed for the third time.

As a result of this factor analysis the KMO score of the 20-item scale has been found to be 0.942. The Bartlett test result has been found to be $\chi 2 = 5123{,}342$ ($p \leq .05$) as well. These values indicate that scale data are appropriate for factor analysis. As a result of factor analysis the factor eigenvalues for scale items have been calculated (Table 2).

Table 2. Variance Values According to the Factor Analysis Results

Factors	Factor Eigenvalues	Expressed Variance %	Cumulative Variance %
1	4,345	34,421	34,421
2	3,987	19,390	53,811
3	1,678	10,215	64,026

According to the analysis results, the first factor explains 34.421 % of the scale, the second 19.390 % and the third one 10.215 %. It is stated that scale factors explain 64.026 % of total variance. Table 3 indicates which factor items gather under which factors and the factor load values.

Table 3. Factor Load Values

Items	Factor 1	Factor 2	Factor 3
RC59	0,880		
RC52	0,864		
RC37	0,856		
RC31	0,851		
RC58	0,848		
RC38	0,842		
RC1	0,810		
Factor 2			
SC41		0,875	
SC20		0,866	
SC48		0,857	
SC29		0,835	

Table 3. Continued

Items	Factor 1	Factor 2	Factor 3
Factor 2			
SC63		0,829	
SC35		0,821	
SC62		0,781	
Factor 3			
HC23			0,878
HC5			0,857
HC34			0,853
HC56			0,843
HC36			0,840
HC32			0,817

When Table 3 is examined it is seen that the total correlation of all items is higher than 0. 78. Factor loads for the items have been determined to vary between 0. 78 and 0. 88. As a result of factor analysis, scale items gather to measure a common feature. Within this context, factors have been named considering the features of the items that have gathered for Intellectual Capital Scale by consulting domain experts and by researching study field literature (Table 4**)**.

Table 4. Factor Names

Factor 1	Factor 2	Factor 3
Relational Capital	Structural Capital	Human Capital

Confirmatory Factor Analysis Results for the Intellectual Capital Scale

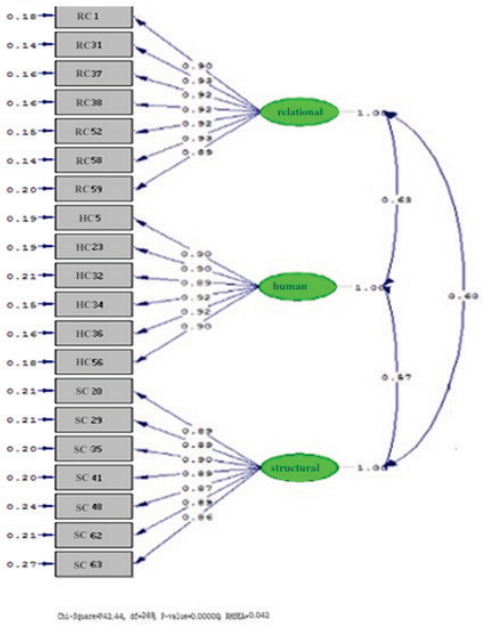

Figure 2. Confirmatory Factor Analysis of the Intellectual Capital Scale

p value, which has a significance value, gives information about the significance of the difference (value) between the expected covariance matrix and the monitored one. In CFA, p value is expected to be significant (Çokluk, Şekercioğlu, & Büyüköztürk, 2010). Here, it has been found as *p*=.000; *p*<.05. The difference between expected covariance matrix and the monitored one is significant. Goodness-of- fit index related to the model is given in Table 5.

Table 5. Findings Related to Confirmatory Factor Analysis

Index	Perfect Fit Criterion	Acceptable Fit Criterion	Study Findings	Result
$\chi^2/_{sd}$	0-3	3-5	2,76	Perfect Fit
RMSEA	.00 ≤ RMSEA ≤ .05	.05 ≤ RMSEA ≤ .10	.04	Perfect Fit
CFI	.95 ≤ CFI ≤ 1.00	.90 ≤ CFI ≤ .95	.91	Good Fit
NNFI	.95 ≤ NNFI (TLI) ≤ 1.00	.90 ≤ NNFI (TLI) ≤ .95	.92	Perfect Fit
NFI	.95 ≤ NFI ≤ 1.00	.90 ≤ NFI ≤ .95	.91	Perfect Fit
SRMR	.00 ≤ SRMR ≤ .05	.05 ≤ SRMR ≤ .08	.07	Good Fit
GFI	.95 ≤ GFI ≤ 1.00	.90 ≤ GFI ≤ .95	.94	Good Fit
AGFI	.90 ≤ AGFI ≤ 1.00	.85 ≤ AGFI ≤ .90	.89	Good Fit

Source: Schumacker and Lomax, 1996

In CFA the goodness-of-fit index that should be examined first is Chi-square (X^2) goodness-of-fit statistics and an independence ratio below 3 indicates perfect fit whereas a ratio below 5 indicates good fit (Kline, 2005). This mentioned ratio has been calculated as 2.756 which indicates perfect fit for the model.

RMSEA; stands for the The Root Mean Square Error of Approximation. A value below 0.05 indicates perfect fit whereas a value below 0.10 indicates good fit (Steiger, 1990). RMSEA value has been calculated as 0.04 which indicates good fit.

CFI is a fit index that compares the covariance matrix estimated by the model with the covariance matrix of the null hypothesis model (Hooper, Coughlan, & Mullen, 2008). CFI values vary between 0 and 1. A model with values between 0.95 and 1 can be stated as good fit and values between 0.90 and 0.95 as acceptable (Hu & Bentler, 1999). The CFI value of the study which is 0.91 indicates good fit. The CFI index is most commonly used goodness-of-fit index for structural equation modelling in recent days (Fan, Thompson, & Wang, 1999).

NFI; means Normed Fit Index and it was formed by Bentler and Bonett (1980) as an alternative for CFI. This index checks the goodness-of-fit of the supposed model to base or null-hypothesis. The NFI value of the study has been calculated as 0.91 which indicates perfect fit. Besides, the NNFI value, which means non-normed fit index, has been calculated as 0,.92 and it indicates perfect fit (Şehribanoğlu, 2005).

GFI, indicates the general covariance number among the observed variables calculated by the supposed model. The GFI value varies between 0 and 1. GFI value exceeding 0.90 is assumed to be a good modelling indicator. This means that enough number of covariance have been calculated among observed variables (Schumacker & Lomax, 1996). The GFI value of the study has been calculated as 0. 94 and it indicates good fit. AGFI means adjusted goodness of fit index and this value has been calculated as 0.89 which also indicates good fit.

SRMR; means Standardized Root Mean Residual. Closer SRMR value to 0 means better fit for the model. SRMR value below 0.05 indicates good fit whereas a value between 0.05 and 0.08 means acceptable (Hu & Bentler, 1999). The value calculated for the study, which is 0.07, indicates good fit.

Findings Related to Exploratory Factor Analysis of School Performance Scale

A factor analysis has been practiced in order to ensure structural validity of School Performance Scale with the purpose of attaining a functional sizing (Büyüköztürk, 2011) by specifying factor loads of the items included in the scale. Before practicing the factor analysis, convenience of the data for factor analysis has been checked through Kaiser Mayer Olkin (KMO) and Bartlett tests. KMO score for the scale that includes 64 items has been calculated as 0.789. Bartlett test result is $\chi 2$= 3345,123 ($p \leq .05$). KMO value higher than 0.60 and significant Barlett test result indicate that the data are convenient for factor analysis (Büyüköztürk, 2011). Factor eigenvalues of the scale items have been calculated as a result of factor analysis (Table 6).

Table 6. Factor Analysis Results Regarding the Scale

Factors	Factor Eigenvalues	Expressed Variance %	Cumulative Variance %
1	4,432	34,324	34,324
2	1,234	6,543	40,867

Two factors, eigenvalues of which are higher than 1.00 according to the data gathered from factor analysis, express 40.867 % of the variance of the scale score. In order to decide how many factors the scale shall be consisted of, scree plot has been observed (Figure 3).

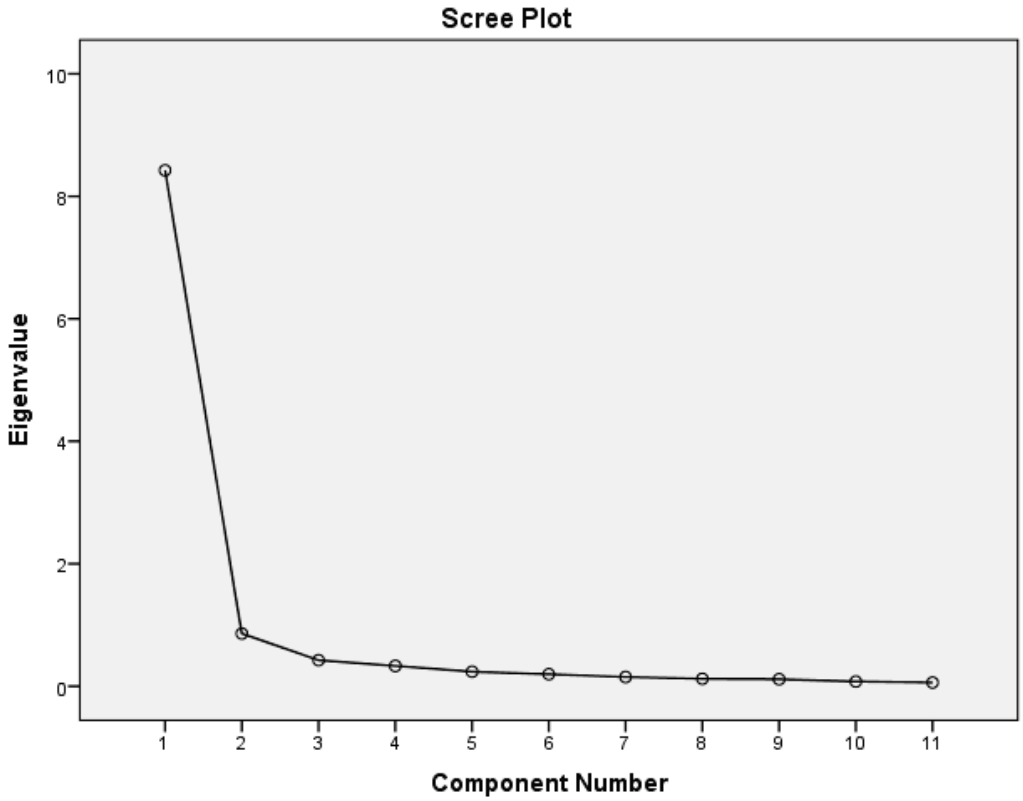

Figure 3. Scree Plot for Exploratory Factor Analysis

After analyzing the scree plot in Figure 3 the scale has been decided to include one factor. In social sciences there are two conditions for the scale to have one dimension (factor). The first condition is that, the variance ratio expressed by the first factor should be at least 30 % of the total variance. As for the second condition, the eigenvalue of the first factor should be higher than 3 times of the second factor's eigenvalue (Büyüköztürk, 2011). Within this context the scale has been decided to include 1 factor so that the study shall fit its purpose since the total number of the size is expected to have 1 factor. Upon deciding the number of the factors, as a consequence of second factor analysis the items 4,5,6 and 7 factor load of which are below 0.50 and the items 9 and 11 the difference between two factors of which are below 0.10 have been removed from the scale. After omitting the items that do not meet the mentioned criteria another factor analysis has been performed for the third time.

As a result of this factor analysis the KMO score of the 5-item scale has been found to be 0.799. The Bartlett test result has been found to be $\chi 2$= 3456,123 ($p \leq .05$) as well. These values indicate that scale data are appropriate for factor analysis. As a result of factor analysis the factor eigenvalues for scale items have been calculated (Table 7).

Table 7. Variance Values According to the Factor Analysis Results

Factors	Factor Eigenvalues	Expressed Variance %	Cumulative Variance %
1	4,544	36,645	36,645

According to the analysis results, scale items explain 36.645 % of total variance. Table 8 indicates the factor load values of the scale.

Table 8. Factor Load Values

Items	Factor 1
P2	0,896
P1	0,881
P3	0,873
P8	0,869
P10	0,866

When Table 8 is examined it is seen that the total correlation of all items is higher than 0. 86. Factor loads for the scale have been determined to vary between 0.86 and 0.89. As a result of factor analysis, scale items gather to measure a common feature.

Confirmatory Factor Analysis Results for School Performance Scale

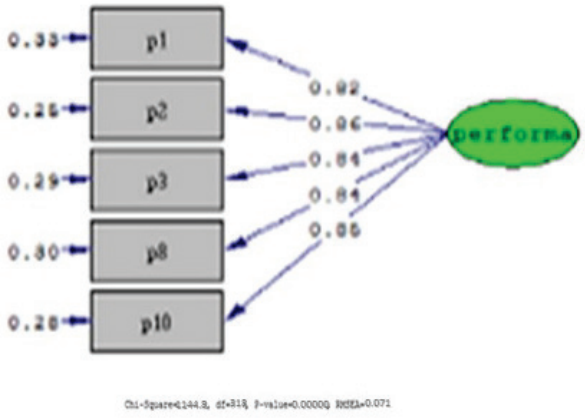

Figure 4. Confirmatory Factor Analysis of School Performance

p value, which has a significance value, gives information about the significance of the difference (value) between the expected covariance matrix and the monitored one. In CFA, p value is expected to be significant (Çokluk et al., 2010). Here, it has been found as *p*=.000; *p*<.05. The difference between expected covariance matrix and the monitored one is significant. Goodness-of- fit index related to the model is given in Table 9.

Table 9. Findings Related to Confirmatory Factor Analysis

Index	Perfect Fit Criterion	Acceptable Fit Criterion	Study Findings	Result
$\chi^2/_{sd}$	0-3	3-5	3,6	Good Fit
RMSEA	.00 ≤ RMSEA ≤ .05	.05 ≤ RMSEA ≤ .10	.07	Good Fit
CFI	.95 ≤ CFI ≤ 1.00	.90 ≤ CFI ≤ .95	.95	Perfect Fit
NNFI	.95 ≤ NNFI (TLI) ≤ 1.00	.90 ≤ NNFI (TLI) ≤ .95	.88	Good Fit
NFI	.95 ≤ NFI ≤ 1.00	.90 ≤ NFI ≤ .95	.94	Perfect Fit
SRMR	.00 ≤ SRMR ≤ .05	.05 ≤ SRMR ≤ .08	.08	Good Fit
GFI	.95 ≤ GFI ≤ 1.00	.90 ≤ GFI ≤ .95	.92	Good Fit
AGFI	.90 ≤ AGFI ≤ 1.00	.85 ≤ AGFI ≤ .90	.93	Good Fit

Source: Schumacker and Lomax, 1996

In CFA the goodness-of-fit index that should be examined first is Chi-square (X^2) goodness-of-fit statistics and an independence ratio below 3 indicates perfect fit whereas a ratio below 5 indicates good fit (Kline, 2005). This mentioned ratio has been calculated as 3.6 which indicates good fit for the model.

RMSEA; stands for the The Root Mean Square Error of Approximation. A value below 0.05 indicates perfect fit whereas a value below 0.10 indicates good fit (Steiger, 1990). RMSEA value has been calculated as 0.7 which indicates good fit.

CFI is a fit index that compares the covariance matrix estimated by the model with the covariance matrix of the null hypothesis model (Hooper et al., 2008). CFI values vary between 0 and 1. A model with values between 0.95 and 1 can be stated as good fit and values between 0.90 and 0.95 as acceptable (Hu & Bentler, 1999). The CFI value of the study which is 0.95 indicates perfect fit. The CFI index is most commonly used goodness-of-fit index for structural equation modelling in recent days (Fan et al., 1999).

NFI; means Normed Fit Index and it was formed by Bentler and Bonett (1980) as an alternative for CFI. This index checks the goodness-of-fit of the supposed model to base or null-hypothesis. The NFI value of the study has been calculated as 0.94 which indicates perfect fit. Besides, the NNFI value, which means non-normed fit index, has been calculated as 0.88 and it indicates good fit (Şehribanoğlu, 2005).

GFI, indicates the general covariance number among the observed variables calculated by the supposed model. The GFI value varies between 0 and 1. GFI value exceeding 0.90 is assumed to be a good modelling indicator. This means that enough number of covariance have been calculated among observed variables (Schumacker & Lomax, 1996). The GFI value of the study has been calculated as 0. 92 and it indicates good fit. AGFI means adjusted goodness of fit index and this value has been calculated as 0.93 which also indicates good fit.

SRMR; means Standardized Root Mean Residual. Closer SRMR value to 0 means better fit for the model. SRMR value below 0.05 indicates good fit whereas a value between 0.05 and 0.08 means acceptable (Hu & Bentler, 1999). The value calculated for the study, which is 0.08, indicates good fit.

Data Analysis of the Study

The main hypothesis of the study is that human capital; structural capital and relational capital, which are the components of the concept "intellectual capital", have effect on performance. Before the hypothesis was researched through SEM, internal consistency of the data had been calculated first; then the convenience of the variables to normal distribution had been checked; later on, descriptive values belonging the data had been indicated and following this, Exploratory Factor Analysis (EFA) had been applied to the data in order to specify significant variables to be involved in the analysis. Confirmatory Factor Analysis (CFA) and SEM were applied respectively to the variables found significant in consequence of the analysis. Cronbach Alpha scores, tests of normality, correlations and EFA analyses were carried out through the software SPSS 20. Descriptive values, on the other hand, were analyzed through the software "Mathematica 10.0" while CFA and SEM analyses were carried out using LISREL 8.80 software (Altan, 2014).

In order to evaluate internal consistency of the scale Cronbach Alpha score has been calculated. When the score is between 0.90 and 1 then high reliability can be mentioned. A score higher than 0.70 is also within the acceptable limits (Büyüköztürk, 2011). Within the scope of the study, Cronbach Alfa coefficient of the relational capital of the Intellectual Capital Scale is 0.79. On the other hand, Cronbach Alfa coefficient of structural capital is 0.87 and human capital is 0.86. Cronbach Alfa coefficient for the whole of the scale is 0.96 whereas Cronbach Alfa coefficient of school performance scale is 0.87. According to the reliability analysis carried out in accordance with the given values, the scales have been concluded to be reliable.

Whereas Maximum Likelihood Method is usually used in SEM applications, this kind of prediction method requires multivariate normality assumption. Therefore, all variables have been applied a test of normality first. Kolmogorov-Smirnov test has been used for intellectual capital variables and performance variables, but as none of the variables had met the univariate normality assumption, multivariate normality test was not found necessary. Therefore, Robust Maximum Likelihood Method, which is a prediction method that does not require multivariate normality assumption, was utilized while SEM was being used.

The question "the number of students", which is one of the questions included in the first part of the scale about the organization of the school, can be considered as an indicator related to the size and structure of the schools.

Since the variables related to performance in the scale are the measurements which are expected to be relevant to the number of students such as "recognition and reliability in the sector", "profitability" and "competition capacity"; the correlation between performance variables and the number of students have been calculated and the correlation between 8 variables (p1, p2, p3, p5, p8, p9, p10, p11) out of 11, which are related to performance, and the number of students have been found out to be statistically significant.

Results

In this section, the application of the Structural Equation Modeling is introduced to indicate the relationship among latent variables in order to test hypotheses of the research.

Application of Structural Equation Modeling

The main hypothesis of the study is that three components of intellectual capital affects performance. First model developed to test this hypothesis can be seen in Figure 5.

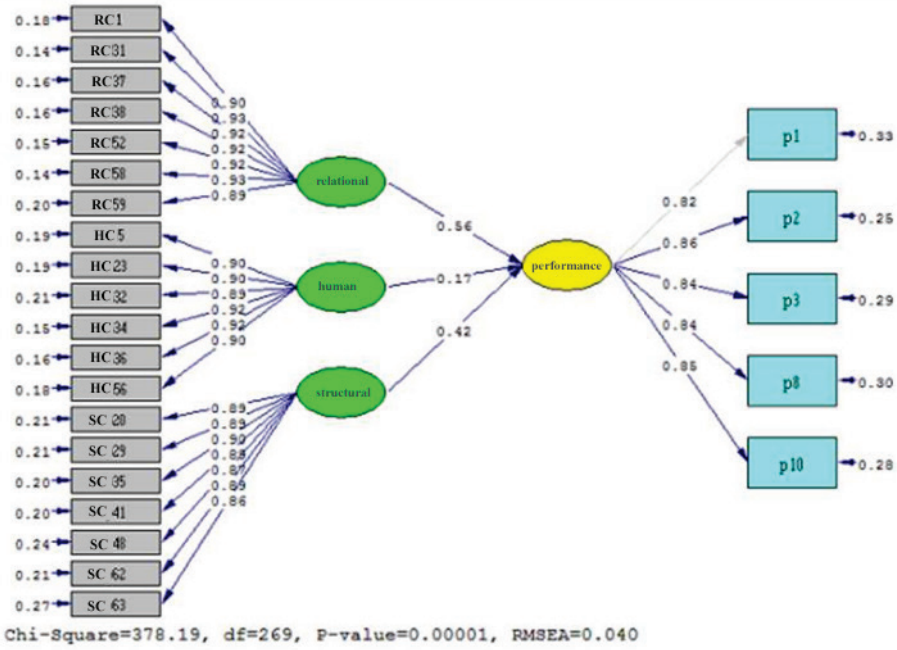

Figure 5. First Structural Equation Modeling

In this model; human capital, relational capital and structural capital involve as external latent variables while performance involves as internal latent variable. Structural equation of the model is as follows.

$$\text{Performance} = 0.56\,\text{relational} + 0.17\,\text{human} + 0.42\,\text{structural}, R^2 = 0.93$$
$$(t = 12.95) \qquad (t = 5.96) \qquad (t = 11.59)$$

When the results are observed, it can be seen that all external latent variables have significant direct effect on performance. On the other hand, despite being statistically significant, the effect of human capital is distinguished to be weaker when compared with the others. Besides, it is noted that a significant correlation among intellectual capital components exists in the measurement model. Therefore, the direct effect of the latent variable "human capital" on performance has been removed and the second model has been developed where its indirect effect has been tested with the latent variable "structural capital" through the latent variable "relational capital". Figure 6 indicates this second model. Fit statistics for this second model are given on Table 10.

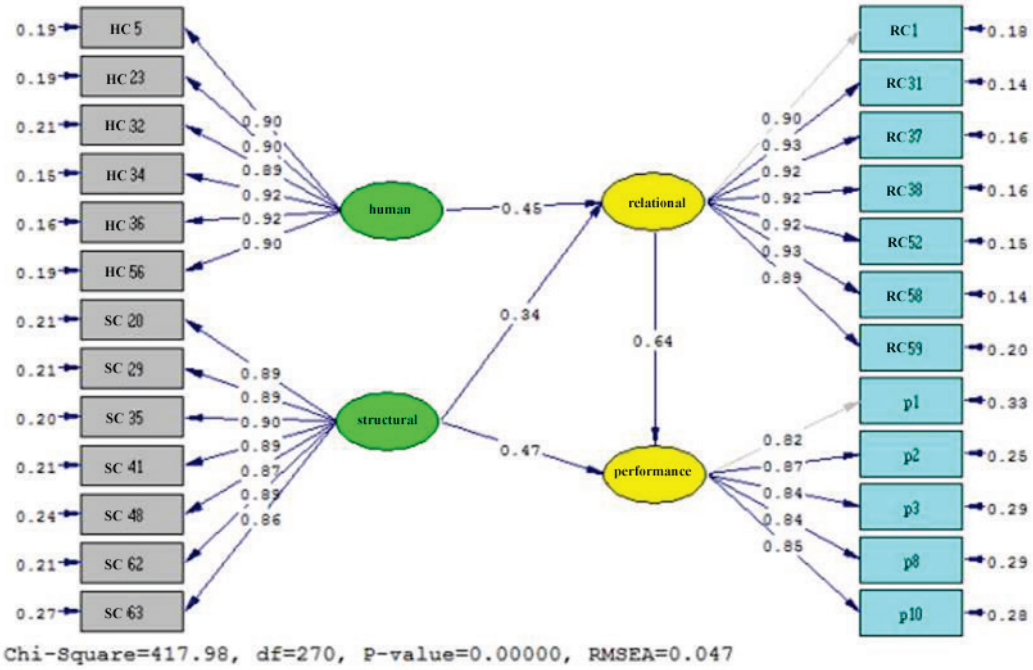

Figure 6. Second Structural Equation Modeling

Table 10. Fit Statistics for Second Structural Equation Modeling

Fit Standards	Value	Fit
RMSEA	0,047	Accepted
NFI	0,99	Accepted
NNFI	0,99	Accepted
CFI	0,99	Accepted
IFI	0,99	Accepted
RFI	0,98	Accepted
GFI	0,88	Reasonable
AGFI	0,86	Accepted

Structural equation of model 2: relational = 0.45 human + 0.34 structural, $R^2 = 0.49$
(t = 7.03) (t = 5.39)

performance = 0.64 relational + 0.47 structural, $R^2 = 0.91$

(t = 15.43) (t = 12.17)

Reduced equation: relational = 0.45 human + 0.34 structural, $R^2 = 0.49$

(t = 7.03) (t = 5.39)

performance = 0.29 human + 0.68 structural, $R^2 = 0.78$

(t = 6.60) (t = 11.46)

Another approach that can be analyzed using a new modeling is that the latent variable "structural capital" affects human capital, which is another latent variable. When education sector is considered such an effect can be mentioned. Model 3 and 4 analyzes this approach.

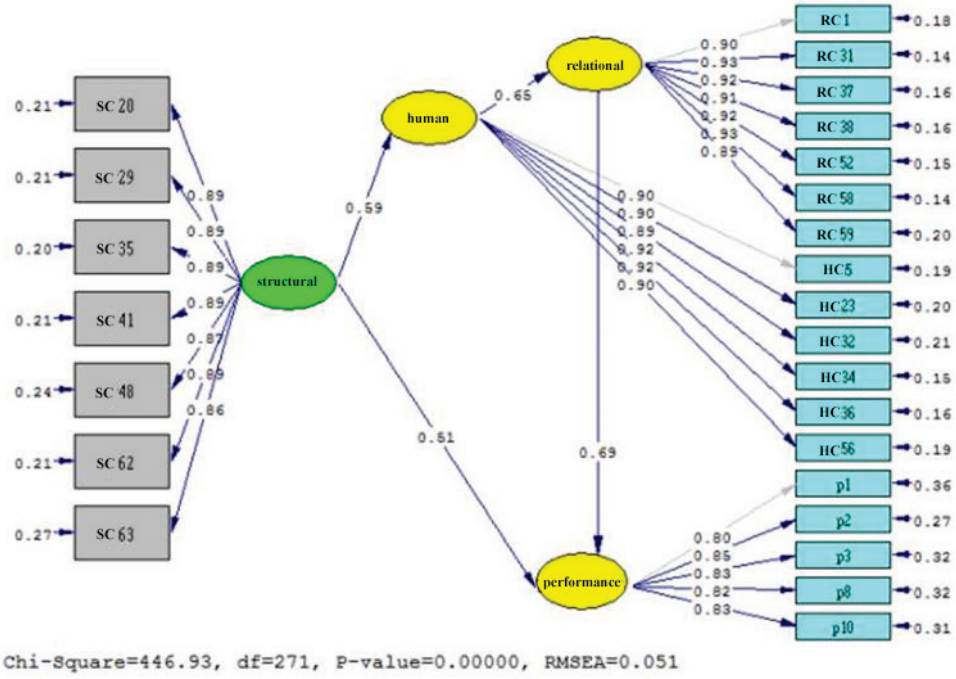

Figure 7. Third Structural Equation Modeling

Table 11. Fit Statistics for Third Structural Equation Modeling

Fit Standards	Value	Fit
RMSEA	0,051	Accepted
NFI	0,98	Accepted
NNFI	0,99	Accepted
CFI	0,99	Accepted
IFI	0,99	Accepted
RFI	0,98	Accepted
GFI	0,88	Reasonable
AGFI	0,85	Accepted

Structural equation of model 3:

$$\text{human} = 0.59\,\text{structural}, \quad R^2 = 0.35 \quad (t = 9.58)$$

$$\text{relational} = 0.65\,\text{human}, \quad R^2 = 0.43 \quad (t = 11.45)$$

$$\text{performance} = 0.69\,\text{relational} + 0.51\,\text{structural}, \quad R^2 = 0.86 \quad (t = 15.92) \quad (t = 12.87)$$

Reduced equation for model 3:

$$\text{human} = 0.59\,\text{structural}, \quad R^2 = 0.35 \quad (t = 9.58)$$

$$\text{relational} = 0.39\,\text{structural}, \quad R^2 = 0.15 \quad (t = 7.77)$$

$$\text{performance} = 0.77\text{structural}, \quad R^2 = 0.59 \quad (t = 12.70)$$

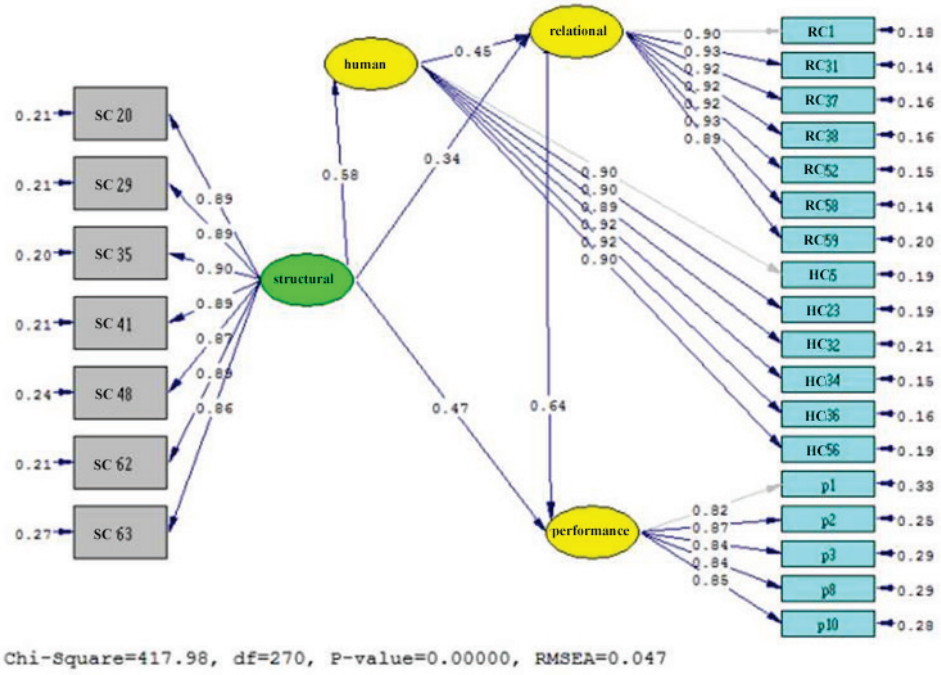

Figure 8. Fourth Structural Equation Modeling

Table 12. Fit Statistics for Fourth Structural Equation Modeling

Fit Standards	Value	Fit
RMSEA	0,047	Accepted
NFI	0,99	Accepted
NNFI	0,99	Accepted
CFI	0,99	Accepted
IFI	0,99	Accepted
RFI	0,98	Accepted
GFI	0,88	Reasonable
AGFI	0,86	Accepted

Structural equation of model 4:

human = 0.58structural, $R^2 = 0.34$
(t = 9.44)

relational = 0.45 human + 0.34 structural, $R^2 = 0.49$
(t = 7.22) (t = 5.39)

performance = 0.64 relational + 0.47 structural, $R^2 = 0.91$
(t = 15.43) (t = 12.17)

Reduced equation for model 4:

human = 0.58 structural, $R^2 = 0.34$
(t = 9.44)

relational = 0.60 structural, $R^2 = 0.36$
(t = 9.73)

performance = 0.85 structural, $R^2 = 0.73$
(t = 13.30)

If the last two models are examined together, it shall be realized that the only difference between them is that, structural capital has direct effect on relational capital in model 4. However, when R^2 values checked, it can be stated that model 4 is a rather better one in comparison with the 3rd one.

Discussion, Conclusion and Suggestions

The factors of efficiency, performance and sense of quality for education institutions have been focused on within the context of the concepts "efficiency" and "organizational efficiency" in business. At this point, the evolution that 19th century schools of industrial world have undergone until the 21st century is the most important indicator of the efforts made in order to create schools with high quality in today world's competitive conditions. The concepts such as effective school, efficient school, school with high quality and performance are the challenging concepts that question the quality of the education given by the institution within the process of developing the schools which is included in the attempts for creating high quality schools. Therefore, schools, which are influenced by today's frequently changing education system, are obliged to make their presence felt by quitting traditional methods and adopting different methodologies and contents that go beyond traditional ones. The pace of information in the changing education world of education; the struggle to adapt to universal elements in the globalizing world; economic problems; social uncertainties; the speed of technological change and the questions on the quality of education create a chaotic atmosphere on school preferences.

In this context, accountability in education sector and school preference principles are among important issues to be questioned in today's conditions. At this point performance evaluation for schools shall be the concrete answer.

When the literature is reviewed, it can be seen that non-education sectors have always been studied and the concept "intellectual capital" has not been questioned for schools (particularly for private schools). Neither has the question "which concepts and criteria should be considered when school performance is concerned" been discussed. On the other hand, no study that researches the measuring of intellectual capital and its effect on school performance in private schools in Turkey has been encountered. From this point of view, the study has a unique characteristic and is expected to offer an insight to the quality and performance of private education institutions.

In this study, the main objectives are observing the concept "intellectual capital", which is defined in business management literature, and its measurement results experientially in private secondary schools, which are also considered as business; analyzing both the relationship of components of intellectual capital with one another and their effect on school performance separately through a detailed fieldwork and revealing possible effects of intellectual capital measurement on school performance criteria.

In this regard, the components of the intellectual capital which is very important for private schools are set forth within the scope of efficiency, productivity, quality and performance within this study. The meanings of structural capital, human capital and relational capital that a private school holds are scrutinized. Besides, the variables of structural capital, which is one of the components included in the scale, test the "organization that learns" characteristics; organizational structure; database; the support of organizational structure on the innovations about the system and processes and the accessibility of the organizational structure by communication network. On the other hand, the variables that belong to human capital are used to test the qualifications of the employees; their contribution to the school; the satisfaction of the employees; the caution displayed during the personnel elimination process; the willingness and ability of the educational staff to use technology and how the school shall be affected in case the employees quit their positions while the variables that belong to relational capital are used to test the following issues: Parents' satisfaction; the awareness of the feedback by the parents; informational background of the employees about the target group and students' profiles; to what extent the opinions and demands of the students and parents are taken into consideration; whether the school is recommended through a dynamic relationship network among the graduates; not facing any problems in terms of re-registration and to what extent the feedback by the students and parents against problems are taken into consideration.

The variables testing school performance in the study are the quality measurements such as recognition and reliability in the sector; vision; profitability; general business performance and success; success in central examinations.

First of all descriptive and exploratory analyses of the gathered raw data during the study have been conducted using various table and chart methods and their distribution fit tests have been fulfilled. Neither the data related to intellectual capital nor school performance do not fit for normal distribution. Therefore, statistical methods that do not require this hypothesis have been preferred in the study.

The data in the study have been derived from an extensive field researched conducted in İstanbul province where private schools are more intensively located when compared with the rest of Turkey. The results have been concluded by findings obtained through the analyses of the data. In the application part, the findings obtained for the purpose of the study have been summarized and the study has been concluded.

9 hypotheses have been dealt within the scope of EFA, CFA and 4 different SEM models within the study. As a result of these analyzes, findings related to the structure of the intellectual capital of the private secondary school sector and its effects on school performance have been obtained.

Multivariate statistical methods utilized in the study are EFA, CFA and SEM. During the study process 9 hypotheses have been tested and verified. (It is known that the term "rejected" is used rather than the term "accepted" in conventional statistical inference processes within hypothesis testing process. Here, it is necessary to state that the preference of the term "accepted" during the mentioned processes in this study is completely related to the statistical logic of the methods employed in the study.) The hypotheses of the study and the conclusions are listed in Table 13.

Table 13. Hypotheses of the Study and Conclusions

Hypotheses	**Conclusion**
H_1: Intellectual capital consists of three main components, which are human capital, structural capital and relational capital.	Verified through EFA, CFA and models 1, 2, 3 and 4 in SEM
H_2: Human capital has positive and direct effect on school performance.	Verified in SEM through Model 1
H_3: Structural capital has a positive and direct effect on school performance.	Verified in SEM through Models 1, 2, 3 and 4.
H_4: Relational capital has positive and direct effect on school performance.	Verified in SEM through Models 1, 2, 3 and 4.
H_5: Human capital has positive and direct effect on relational capital.	Verified in SEM through Models 2, 3 and 4.
H_6: Structural capital has positive and direct effect on relational capital.	Verified in SEM through Models 2 and 4.
H_7: Structural capital has positive and direct effect on human capital.	Verified in SEM through Models 3 and 4.
H_8: Human capital has positive and indirect effect on school performance.	Verified in SEM through Models 2, 3 and 4.
H_9: Structural capital has positive and indirect effect on school performance.	Verified in SEM through Models 2, 3 and 4.

There are 4 models mainly used within the frame of SEM during the testing process of the 9 hypotheses give in Table 13. The findings are summarized below:

In the 1st Model 3 components of intellectual capital have been found out to have significant direct effects on performance. However, human capital has been observed to have less direct effect on performance when compared with the other components. As a result of significant correlations among the components of intellectual capital, a new model has been developed.

In the 2nd Model, the indirect effect of human capital through relational capital on performance has been detected. Besides, both direct and indirect effect of structural capital on performance have been detected (the latter effect is through relational capital).

Predicting the possibility that structural capital has influence on human capital in education sector where human capital is of great importance, indirect effect of structural capital on performance has been observed in the 3rd model.

In the 4th model which is relatively stronger in terms of fit statistics, unlike 3rd model, structural capital has been found out to have direct effect on relational capital but, when compared with its influence on human capital this effect has been found out to be relatively weak.

These data obtained as a result of the study have parallels with the previously carried out studies.. In the study carried out by Bontis (1998), the relationship between intellectual capital and organization performance is researched. Bontis (1998), concludes statistically significant results relating the intellectual capital-performance relation. Bontis (1998) also concludes that customer capital, which is an element of intellectual capital, and performance relation has the highest significance in the relationship between intellectual capital an organization performance. The contribution of customer capital to school performance has also been tested in this study and it has been verified. In the study by Bontis et al. (2000) in which intellectual capital-organization performance relation in service business is researched and the internal relationship level of intellectual capital elements are observed, it is concluded that a quite strong statistical relationship exists between human capital and customer capital, which are the elements of intellectual capital. The relationship between customer capital and structural capital on the other hand, is concluded to be strong. Bontis et al. (2000) argue that the weakest relationship among the elements of intellectual capital exists between human capital and structural capital. These mentioned studies confirm the data we obtained as a result of the study. Being able to provide a competitive advantage in information age has become to be possible for schools by managing their intellectual capital appropriately rather than their tangible assets. This being the case, it has been confirmed that intellectual capital value provides a kind of promoting effect which has positive effects on school performance. As a result of the study, the following suggestions are made both to the administrators, parents and schools:

- Nowadays it is compulsory for schools and their administrations to attach importance to the concept "intellectual capital". Within this context they are suggested to develop performance evaluation techniques and to differentiate their administration style.
- They also need to manage intellectual capital efficiently. In order to achieve this, it is necessary for schools to support employees to become an organization that learns; to pay attention on employing qualified personnel; to guide employees on storing information and using it appropriately and to ensure that the parents and students, in other words customers, become a part of the school. By this way intellectual capital shall lead to provide a competitive advantage against other schools by promoting school performance. Thus, schools that are aware of their intellectual capital and that can manage it well will be ahead of their competitors. In this context, this study is predicted to make contributions to intellectual capital measuring in education sector with its characteristic that questions school quality and performance.

Moreover, it is harder to calculate intangible assets that schools possess whereas it is possible to do the same for tangible ones. Since it is harder and more complicated to calculate intellectual capital when compared with tangible assets, methods to specify intellectual capital value have been studied. As a result, new intellectual capital measurement models have been developed. The researchers are suggested to utilize these latest intellectual capital measuring models; study to improve these models; to analyze the relation between intellectual capital and school performance since it shall contribute to the study field literature.

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Appendix 1. Intellectual Capital Questionnaire

Dear Administrator,

As it is known, intellectual capital stands for intangible or in other words invisible assets that the organizations possess. It consists of "human capital, structural capital and customer capital" and these elements are regarded as the most important assets that increase the performance of the organizations.

From this point of view, the following questionnaire has been prepared for the PhD dissertation titled "Intellectual Capital and School Performance: A Study on Private Secondary Schools" at Okan University, Institute of Social Sciences. The objective of this study carried out under consultancy of Prof. Dr. Enis SINIKSARAN is to reveal "Intellectual Capital Components" at private secondary schools and to determine the effects of these components on "School Performance".

The questionnaire consists of 3 parts. First part includes questions about the administrator who fills the questionnaire and questions about the school. Second part includes questions on intellectual capital and third part includes questions on the performance of your school.

It shall take approximately 15 minutes to fill in the questionnaire. I kindly request you to read the questions carefully and answer all the questions by thinking about the characteristics of your school and by regarding yourself as a representative of your organization. I am confident that you will answer sincerely, thinking that it will contribute to a scientific study.

The answers given for the questions and the results shall be strictly kept hidden. Neither the name of the school nor the administrative personnel shall be disclosed. Answers shall be evaluated collectively.

Thank you in advance for your participation.

Best regards,

Senem ALTAN
Okan University Postgraduate

Prof. Dr. Enis SINIKSARAN
İstanbul University Academic Member

GSM : 0542 370 75 33
E-mail: altansenem@gmail.com

PART 1

ORGANIZATIONAL INFORMATION	PARTICIPANT ADMINISTRATOR INFORMATION
Number of the students: Number of classes:	Gender: ( ) Male ( ) Female Educational background: ( )B.A ( )M.A ( ) Ph.D. Time you work in management position: The time you have been working at your current institution:

PART 2

INTELLECTUAL CAPITAL QUESTIONNAIRE											
EXPLANATION: We kindly ask you to answer the following questions for the dissertation titled "Intellectual Capital and School Performance: A Study on Private Secondary Schools" which aims to analyze the intellectual capital structure of the private schools in İstanbul. **Please score the statement between 1 and 10** **considering how much you agree.**		**Strongly disagree**									**Strongly agree**
1	If parents are applied a survey, it shall be concluded that they are satisfied with our school.	1	2	3	4	5	6	7	8	9	10
2	The skills of our employees are at the ideal level we aim to reach.	1	2	3	4	5	6	7	8	9	10
3	Our school is run at the lowest cost per student in education sector.	1	2	3	4	5	6	7	8	9	10
4	Our school improves the income / cost ratio.	1	2	3	4	5	6	7	8	9	10
5	When an employee leaves, our school is affected.	1	2	3	4	5	6	7	8	9	10
6	We are much better at resolving complaints by the parents and students immediately when compared with the past.	1	2	3	4	5	6	7	8	9	10
7	We put into practice our plans on new business development without delay.	1	2	3	4	5	6	7	8	9	10
8	Income per employee has increased in recent years.	1	2	3	4	5	6	7	8	9	10
9	Our school is among the best in the sector in terms of income per employee.	1	2	3	4	5	6	7	8	9	10

10	The willingness of our employees to reach team goals increases the efficiency of our school.	1	2	3	4	5	6	7	8	9	10
11	The number of students has increased significantly in recent years.	1	2	3	4	5	6	7	8	9	10
12	Our school is one of those with the highest number of students.	1	2	3	4	5	6	7	8	9	10
13	The organizational structure of our school does not support the development and sustainability of different opinions.	1	2	3	4	5	6	7	8	9	10
14	Our school is among the best in the sector in terms of additional educational activities (additional classes supplementary classes etc.).	1	2	3	4	5	6	7	8	9	10
15	Our school is among the best in the sector in terms of the quality of the curriculum.	1	2	3	4	5	6	7	8	9	10
16	The organizational structure at our school always produces new, great ideas.	1	2	3	4	5	6	7	8	9	10
17	We are able to realize most of our good ideas.	1	2	3	4	5	6	7	8	9	10
18	The relationship we build with parents evoke admiration in competing schools.	1	2	3	4	5	6	7	8	9	10
19	Our school makes an effort to create the highest positive added-value in the sector.	1	2	3	4	5	6	7	8	9	10
20	Our school constantly supports the development of skills and training upon employees' requests.	1	2	3	4	5	6	7	8	9	10
21	Our school supports the development of new ideas and products.	1	2	3	4	5	6	7	8	9	10
22	Our school develops more ideas and products when compared with our competitors in the sector.	1	2	3	4	5	6	7	8	9	10
23	Our school staff is creative and intelligent.	1	2	3	4	5	6	7	8	9	10
24	Parents in our school are much more loyal when compared with those in other schools.	1	2	3	4	5	6	7	8	9	10
25	When there is a new application regarding education in our school, parents always trust us.	1	2	3	4	5	6	7	8	9	10
26	Our employees are mostly the best in this sector.	1	2	3	4	5	6	7	8	9	10
27	Our school is proud of being sector-oriented.	1	2	3	4	5	6	7	8	9	10
28	We are proud of our efficiency.	1	2	3	4	5	6	7	8	9	10

29	The organizational structure of our school is not flexible about making new ideas known by all academic and administrative personnel.	1	2	3	4	5	6	7	8	9	10
30	We constantly meet our students and their parents to be aware of their requests.	1	2	3	4	5	6	7	8	9	10
31	Information on parent feedback is known by the school administration.	1	2	3	4	5	6	7	8	9	10
32	Our employees are happy to work in our school.	1	2	3	4	5	6	7	8	9	10
33	Our employees always perform at the highest level.	1	2	3	4	5	6	7	8	9	10
34	Our recruitment process is quite detailed and we pay great attention to choose the best candidates.	1	2	3	4	5	6	7	8	9	10
35	Our database makes it easy to get information.	1	2	3	4	5	6	7	8	9	10
36	Unexpected leave of our employees puts our school into great trouble.	1	2	3	4	5	6	7	8	9	10
37	Our school staff is aware of the target group and parent profile.	1	2	3	4	5	6	7	8	9	10
38	We do not consider the view and requests of our students and their parents.	1	2	3	4	5	6	7	8	9	10
39	Our staff usually acts without thinking the results.	1	2	3	4	5	6	7	8	9	10
40	Our employees do not spend too much energy on the work they do.	1	2	3	4	5	6	7	8	9	10
41	The systems and processes used in our school, support innovation.	1	2	3	4	5	6	7	8	9	10
42	The organizational structure of our school is too bureaucratic.	1	2	3	4	5	6	7	8	9	10
43	Our employees are open to learning from each other.	1	2	3	4	5	6	7	8	9	10
44	Our employees are eager to express their ideas during the meetings.	1	2	3	4	5	6	7	8	9	10
45	We attach great importance to meeting the needs and requests of our students and their parents in order to sustain their satisfaction.	1	2	3	4	5	6	7	8	9	10
46	We offer new practices mostly in order to realize what parents do not want.	1	2	3	4	5	6	7	8	9	10
47	Our school gets maximum efficiency from the employees.	1	2	3	4	5	6	7	8	9	10

48	Our organizational structure does not allow our employees to be disconnected from each other.	1	2	3	4	5	6	7	8	9	10
49	The culture and atmosphere in our school is comfortable and supportive.	1	2	3	4	5	6	7	8	9	10
50	Some of our employees seem to be trying to adversely affect the positions of others.	1	2	3	4	5	6	7	8	9	10
51	We are confident that parents shall continue to cooperate with us.	1	2	3	4	5	6	7	8	9	10
52	We try to get feedback from our students and their parents as much as possible when there are problems.	1	2	3	4	5	6	7	8	9	10
53	The factor that makes our school different in the sector is that our employees always try to do their best.	1	2	3	4	5	6	7	8	9	10
54	We are much better at resolving complaints related to the parents and students immediately when compared with the past.	1	2	3	4	5	6	7	8	9	10
55	The academic and administrative staff are eager to use new technologies in education.	1	2	3	4	5	6	7	8	9	10
56	The academic staff has the skill and willingness to use various technological instruments (software, smart board, etc.).	1	2	3	4	5	6	7	8	9	10
57	Initial enrollment rate for our school is at desired level.	1	2	3	4	5	6	7	8	9	10
58	Relatives and friends of both our current students and graduates, prefer our school.	1	2	3	4	5	6	7	8	9	10
59	Our re-registration rate is at desired level.	1	2	3	4	5	6	7	8	9	10
60	School website is used effectively by the students and parents.	1	2	3	4	5	6	7	8	9	10
61	Our school uses social media resources effectively.	1	2	3	4	5	6	7	8	9	10
62	The technological infrastructure in our school supports development.	1	2	3	4	5	6	7	8	9	10
63	Our school closely follows and tries to apply new technologies and developments in education.	1	2	3	4	5	6	7	8	9	10
64	We have specific programs for career orientation.	1	2	3	4	5	6	7	8	9	10

PART 3

	EXPLANATION: Please score the following variables from 1 to 10 considering your school. **Performance**	**The lowest**									**The highest**
1	Recognition and Reliability in the Sector	1	2	3	4	5	6	7	8	9	10
2	Vision	1	2	3	4	5	6	7	8	9	10
3	Profitability	1	2	3	4	5	6	7	8	9	10
4	Rise in Profitability	1	2	3	4	5	6	7	8	9	10
5	After-tax Profit	1	2	3	4	5	6	7	8	9	10
6	Rise in After-tax Profit	1	2	3	4	5	6	7	8	9	10
7	Competition Capacity	1	2	3	4	5	6	7	8	9	10
8	General Business Performance and Success	1	2	3	4	5	6	7	8	9	10
9	Visibility on Written and Visual Media	1	2	3	4	5	6	7	8	9	10
10	Success in Central Examinations	1	2	3	4	5	6	7	8	9	10
11	Success in Sports Activities, Artistic Activities and Project Activities	1	2	3	4	5	6	7	8	9	10