Alignment of Business and IT and Its Association with Business Performance: The Case of Iranian Firms

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Abstract: In recent years strategic alignment has become a hot topic and researchers have put strong effort to develop models and instruments in order to measure alignment. The significance and importance of the aligning business with information technology and its effects on business performance is clearly embedded in the existent literature. Unfortunately, very few works have been done among Iranian firms and competition environment of Iran. These researches are limited to some case studies in Iranian companies. So, this paper opens the gate on this topic by investigating the effects of strategic alignment of business and information technology on business performance in Iranian large companies, applying the famous model introduced by Chan et al.. The primary data collected from questionnaire collected from a long list of companies in Tehran Stock Exchange and were analyzed through using SPSS software. The results indicate that strategic alignment of IT and business strategy has a positive and significant effect on business performance and it is stronger than the effect of both business and IS strategic orientation. Finally, some suggestion for Iranian companies and also future researches are presented.

Keywords: IT strategic alignment, Business strategic orientation, IS strategic orientation, Firm performance

Abbreviations:
IT: Information Technology
IS: Information Systems

1. Introduction

1.1 Problem statement
The rapid progress of Information technology (IT) capabilities makes IT a strategic weapon for competitive advantage in most enterprises. Successful use of IT is recognized in the way a firm uses IT in a strategic trend not only in term of hardware and software (Huang & HU, 2007).

Organizations need to use an efficient, practical and strategic information technology to protect themselves in today’s dynamic and complex environment. Hence, the strategic use of information technology became a crucial factor for international organizations in order to gain competitive advantage. Despite various methods of IT/IS strategic planning have been introduced by researchers and practitioners in organizational studies, the failure rate for companies and industries in this context is high and thorough.

For the last two decades a major concern for Information system practitioners as well as business executives has been achieving strategic alignment of information technology (IT) with business
strategy and converting IT investments into new business opportunities (Luftman, 2006). As studies have shown, misalignment or the lack of alignment between IT and business strategies is one of the main reasons why organizations fail to realize the full potential benefits of their IT investments (Galliers, 2006).

The aim of this paper is to investigate the effects of business strategic orientation, IS strategic orientation and strategic alignment as a mutual factor aligning these two variables assessed by a model presented by Chan et al. (1997) on business performance. Scope of this research is Iranian firms which have the financial and organizational conditions of Tehran Stock Exchange. To this manner, First; we review the literature on strategic alignment of IT and business strategy. Second; we present research model and develop the hypotheses. Third; we discuss the research methodology employed to carry out the empirical work. Finally, the result are presented and discussed and some suggestions are made.

1.2 Hypothesis
The main aim of this paper is discovering the effect of strategic business and IS alignment on business performance. Besides, comparing this effect with the effects that each of business and IS strategic orientation have on business performance. To satisfy this need and also, according to literature review and empirical research studies, we propose following hypothesis:

H1) Business strategic orientation has a significant and positive impact on business performance.
H2) IS strategic orientation has a significant and positive impact on business performance.
H3) IS strategic alignment has a significant and positive impact on business performance.
H4) IS strategic alignment has a stronger impact on business performance comparing with business strategic orientation and IS strategic orientation.

2. Literature Review
2.1 Business Strategy
Strategy implies choice and the notion of strategic choice recognizes that given the same environment, similar firms may employ different competitive methods or strategies to address the environment (Dess and Davis, 1984). Competitive strategy is synonymous with the term strategic orientation (Morgan and Strong, 1998) and the concept of strategy is central to the effectiveness of an organization. In other words, strategic orientation refers to how organizations use strategy “to adapt and/or change aspects of its environment for a more favorable alignment” or how firms strategically position themselves to achieve and sustain competitive advantage (Teece, Pisano, and Shuen, 1997). It also refers to how strategy is used to improve the organization’s chances of success (Miller and Camp, 1985). An organization’s “strategic orientation as a market-driven company is a significant indicator of its performance” (Gatignon and Xuereb, 1997, p.77).

There are different approaches to strategic orientation constructs, namely the narrative, classificatory and comparative approach (Venkatraman, 1989). The narrative approach is rarely used, due to the philosophical abstraction of the strategy concept in which complex characterization of strategy can only be described in its holistic and particular setting (Venkatraman, 1989). Consequently, although this approach has its role with regard to conceptual developments, its use for testing theories is limited, since it insufficiently measures variables that can be assessed using finely calibrated scales (Ginsberg and Venkatraman, 1985).

The classificatory approach is the prominent one, which uses either conceptual or empirical strategy classifications, termed as typologies (Venkatraman, 1989). Several widely accepted classifications are the generic strategies of cost efficiency, differentiation and focus (Porter, 1980);
prospector, analyzer, defender and reactor strategies (Miles and Snow, 1978); and, first mover and follower strategies (Lieberman and Montgomery, 1988). Despite their popularity and attractiveness, these approaches can possibly exclude important dimensions or fail to detect subtle nuances in composing a strategy and explaining behaviors (Morgan and Strong, 2003). Instead of using typologies that are rooted inasset of classificatory dimensions or conceptual criteria, it would be advantageous to use key traits of strategy constructs that make it possible to analyze a firm’s behavior. Such constructs focus less on the categorization of one cell of typology or taxonomy, but more on the identification and measurement of key strategic traits. The comparative approach has the ability to decompose the variation that is seen across different strategy classifications into more finely-grained differences along each underlying trait (Venkatraman, 1989). These traits are described by different researches as follow:

- **Aggressiveness** trait in a firm is reflected in its propensity to face up to and challenge its rivals directly and intensely and to outperform them in the marketplace. These include the use of strategies such as low price, differentiation, targeting a competitor’s weaknesses (Lumpkin and Dess, 1996).
- **Analysis** refers to the overall problem solving posture of an organization, the extent of tendency to search deeper for the roots of problems and, from an understanding of the organization’s internal and external environment, to generate the best possible solution alternatives (Miller and Friesen, 1984).
- **Defensiveness** refers to the defensive behavior of an organization (Miles and Snow, 1978), characterized by an emphasis on efficiency, productivity and cost reduction in operations (Snow and Hrebiniak, 1980).
- **Futurity** dimension relates to the future; to temporal considerations or time orientation in decision making. It is reflected in key strategic decisions, where a balance is kept between effectiveness or longer-term considerations versus efficiency or shorter-term considerations.
- **Proactiveness** may be defined as a “forward-looking perspective characteristic of a marketplace leader” that uses its foresight to anticipate future demand and shape the environment (Lumpkin and Dess, 2001, p.433).
- **Riskiness** is defined in various ways depending on the context, such as ‘venturing into the unknown’ and ‘heavy borrowing’ (Baird and Thomas, 1985, p.230). Risk taking and the way it impacts on the economic performance of the organization represent critical issues in strategic management (Bromiley, 1991).

### 2.2 IS Strategy

Information systems strategy is of central importance to IS practice and research. Our extensive review of the literature suggests that the concept of IS strategy is a term that is used readily; however, it is also a term that is not fully understood. (Chen et al., 2010)

Henderson and Venkatraman conceptualize IT strategy in terms of three dimensions: (1) information technology scope: the types and range of IT systems and capabilities (e.g. electronic imaging systems, local and wide-area networks, expert systems, robotics) potentially available to the organization; (2) systemic competencies: those distinctive attributes of IT competencies (e.g. higher system reliability, interconnectivity, flexibility) that contribute positively to the creation of new business strategies or better support existing business strategy; and (3) IT governance: choices of structural mechanisms (e.g. joint ventures, long-term contracts, equity partnerships, joint R&D) to obtain the required IT capabilities. (Henderson and Venkatraman, 1992, p.100)

Three closely related streams of literature have emerged, which include 1) strategic information systems planning (SISP), 2) alignment between IS strategy and 3) business strategy, and competitive use of IS or using IS for competitive advantage (Chen et al., 2010). Each of these three
streams continues to be a perennial area of importance among both practitioners and academics (Luftman and Kempaiah, 2006)

An instrument developed by Chan et al. (1997) to measure realized IS strategy based on the STROBE instrument. This instrument is parallel to Venkatraman’s realized business strategic orientation. In other words, every construct is equal to the same construct in business strategy and in turn each measurement and its indicators are formed based on their original indicator in business strategy. This IS strategy instrument is named STROIS, as it measures the strategic orientation of the portfolio of information systems in an organization - i.e. existing company deployments or uses of information technology. (Chan et al., 1998)

The STROIS instrument is designed to determine the ways in which information systems are used by an organization to provide support for business strategy and operations. It provides a snapshot view of the company’s IS investments and capabilities at a point in time. It focuses on realized IS strategy, not monitoring IS strategy formulation or planning processes (Chan et al, 1998).

According to Chan et al. (1998), in this research we are not assessing intended strategy. Neither are we evaluating past strategy or trying to predict future strategy. The goal is to determine current IS strategy as implied by the portfolio of information systems actually in existence and by the strategic support these systems provide. Our approach enables managers and researchers to examine a portfolio of company information systems in terms of the types of support provided for business activities, and the adequacy of these forms of support. It provides a framework within which realized IS strategy and contributions to firm performance can be assessed. Areas of weak or inadequate support can be identified and corrected. (Ibid)

As described STROIS instrument parallel to STROBE assesses IS strategic orientation and its constructs are as follow:

- IS support for Aggressiveness: IS deployment used by business unit when pursuing aggressive marketplace action
- IS support for Analysis: IS deployment used by business unit when conducting analyses of business situation
- IS support for Defensiveness: IS deployment used by business unit to improve the efficiency of company’s operations and strengthen business links
- IS support for Futurity: IS deployment used by business unit for forecasting and anticipation purposes
- IS support for Proactiveness: IS deployment used by business unit to expedite the introduction of products/services
- IS support for Riskiness: IS deployment used by business unit when to make business risk assessment

2.3 Strategic IS Alignment with Business Strategy

In the academic literature, the word alignment is widely used without a unique operational definition. The word itself may be used in slightly different ways. It is also termed fit, integration, bridge, harmony, fusion and linkage. However, in all cases, it concerns the integration of strategies relating to the business and it’s IT/IS. There are those who argue that IS alignment is not an issue in its own right (Mehregan et al., 2011).

Some researchers, for example, Smaczny (2001), argue that there is no need to discuss IS and business alignment as a special context. Because IS like all other organizational resources are formed business strategy not the thing to fit with business strategy. Smaczny uses the term fusion to describe this integration (Smaczny, 2001). Yet, strategy in its broadest sense is all about alignment
or matching organizational resources (including IS) with environmental threats and opportunities (Andrews, 1980).

Bharadwaj (2000) defines IT alignment as a harmony between an organization’s goals and activities and information systems that support. Campel (2005), believes that ‘alignment is the business and IT working together to reach a common goal’. His research respondents were focus group participants.

Beside these conceptual perspectives, alignment can help organizations in three different ways. The first is by maximizing the return on IT investment; the second is by enabling organizations to achieve competitive advantage through IS; and thirdly, it facilitates them to respond to new opportunities by providing direction and agility (Bharadwaj, 2000).

A closer look at the aims for adopting an IT strategy suggests that the strategic information technology planning is used for aligning IT with business and gain competitive advantage from business opportunities created by using Information Systems (IS) (Papp, 2004). However, achieving strategic IT alignment with business requires commitment from both IT and business executives. The alignment of IT with an organization’s strategies is not an easy task, it requires the senior management to take a different approach towards IT and devote certain amount of time, understanding the usage of IS and IT in the business. They must understand that IT is an important strategic asset and business partner from strategy formulation to service delivery. There must be a mutual understanding and a shared vision among business and IT executives, and to incorporate their understanding into consistent, integrated business and IS missions, priorities, strategies, and processes (Abdi & Domink, 2010).

A recurring issue seen in previous alignment research is that often corporate strategy is unknown or, if known, is unclear and/or difficult to adapt. This poses a significant challenge because most models of alignment presuppose an existing business strategy to which an IT organization can align itself. Formal business strategies are often too ambiguous for business managers to understand. Managers face ambiguity surrounding the differences between espoused strategies, strategies in use, and managerial actions, many of which may be in conflict with one another (Chan, 2006). In this research alignment is assessed by the concept introduced by Venkatraman. Venkatraman (1989) discusses six different conceptualizations of fit in strategy research:

- moderation: calculated using interaction terms
- mediation: modeled using indirect or intermediate variables
- matching: measured using difference scores
- gestalts: arrived at via cluster analysis
- profile deviation: examined using pattern analysis
- covariation: computed using factor analysis

2.4 Concept of Fit in the Strategy Literature

Bergeron et al. (2001) examine these six conceptualizations of fit. They argue that studies which neglect to specify the exact perspective of fit may lead to contradictory, mixed, or inconsistent results. Sabherwal and Chan (2001) use the Miles and Snow (1978) strategy typology to measure business strategy, predict the appropriate IT strategy, and assess alignment. They were able to compute detailed typology-based alignment assessments. Sabherwal and Kiris (1994) argue the way to compute misalignment, which is the opposite of alignment, using profile deviation. Cragg et al. (2002) provide evidence of inconsistent results from two different measurement approaches, the matching perspective and the moderation perspective. They also argue the importance of selecting appropriate alignment models. Chan et al. (1997) developed the STROIS (Strategic Orientation of IS) instrument based on an earlier STROBE (Strategic Orientation of Business Enterprises)
The Chan et al. (1997) study provides empirical support for modeling IT strategic alignment using moderation approach rather than mediation or matching which are quite simpler. In the Cragg et al. (2002) study IT alignment was considered as the moderation variable which forms an interaction between business strategy and IT strategy rather than as a simple match between the two. As many researchers have analyzed IT and business strategic alignment in different perspectives, many of them believe than for a bivariate fit, moderation show better results than matching or mediation (e.g. Chan et al., 1997; Bergeron et al., 1995; Cragg, 2002). Table 1 shows a summary of researches done in the context of fit theory.

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Form of fit</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bergeron and Raymond</td>
<td>1995</td>
<td>Mediation</td>
<td>Fit between strategic orientation of IT management and business strategy has a positive impact on performance</td>
</tr>
<tr>
<td>Chan et al.</td>
<td>1997</td>
<td>Moderation</td>
<td>IS strategic alignment is a better predictor of Performance rather than strategic orientation</td>
</tr>
<tr>
<td>Sabherwal and Chan</td>
<td>2001</td>
<td>Profile Deviation</td>
<td>Business and IS strategies’ alignment affects performance for prospectors and analyzers</td>
</tr>
<tr>
<td>Croteau et al.</td>
<td>2001</td>
<td>Covariation</td>
<td>The coalignment of org. and IT infrastructures has a positive effect on performance</td>
</tr>
<tr>
<td>Cragg et al.</td>
<td>2002</td>
<td>Matching</td>
<td>Moderation shows a better result than matching</td>
</tr>
<tr>
<td>Bergeron et al.</td>
<td>2002</td>
<td>Covariation</td>
<td>The coalignment of business and IT starategy and infrastructures has a positive effect on performance</td>
</tr>
<tr>
<td>Xiaoing et al.</td>
<td>2008</td>
<td>Moderation</td>
<td>Business and IS strategies’ alignment affects performance for prospectors, analyzers and defenders</td>
</tr>
</tbody>
</table>

2.5 Fit Method Applied in This Research

Venkatraman (1989) described that the moderation form of fit between two variables appears in term of an interaction derived from the two variables. The equation in this model is:

\[ Y = f(X, Z, XZ) \]

In which X and Z are independent variables that affect dependent variable Y. Also, X.Z reflects the joint effect of X and Z in this research. As mentioned by previous researchers IS strategy can moderate the relation between business strategic and business performance. According to this moderation form of fit alignment appears as the interaction term between business and IS strategic orientation.

2.6 Business Performance

Robinson (1983) argued that performance could be measured in two ways: objectively or subjectively. Objective measurements are generally based on financial data (such as financial results). However, subjective measurements are based on managers' evaluations relative to their perception of IT impacts. According to Miller (1987), subjective measurements are better than objective measurements since accounting information is not readily available and not usually reliable since they could be manipulated by owners for various reasons.(Jouirou & Kalika, 2004)
Business performance as a model examines indicators such as profitability and growth in sales, earnings per share and so forth (Venkatraman and Ramanujam, 1986). Many other researchers have used this constructs to measure performance (i.e. Bergeron & Reymond, 1995; Chan et al., 1997; Jouirou & Kalika, 2004). In this study, the two key business performance measures employed include those of percentage annual sales growth and profitability or operating profit ratio in the last five years extracted from the organization’s financial records.

3. Method

3.1 Research Model

Chan et al. (1997) propose a model in order to estimate the relation strategic IS alignment with business strategy and business performance. In this research, the model was changed to eliminate the effect of variable IS effectiveness on business performance. The research conceptual model is presented in the figure 1.

3.2 Sampling Procedures

To examine the alignment and firm performance, we conducted a survey from April to September 2011 among firms of Tehran Stock Exchange. These firms were appropriate for our research because of three reasons: 1) They were profitable for at least 3 consecutive years 2) Because of competition situation they use information systems more seriously than outside-stock firms. 3) They are large companies from different industries with strong financial turnover.

3.2.1 Sample Size and Precision

Data for this research was collected through a questionnaire, which had 56 questions. The questionnaire consists of 3 parts, covering the areas including business strategic orientation (Venkatraman, 1989), IS strategic orientation (Chan, 1998), business performance (Venkatraman, 1985). All of our respondents were either CEO or IT in charge of the firm because of the necessity of familiarity with strategic plans of the firm. The respondents were to rate the statements on a 5-point Likert scale.

Because the number of firms in Tehran stock exchange during the research period was 345. We sent out 206 questionnaires both by fax and email and suggested two ways to send us their responses: either email or fax. After two reminded calls we received 91 completed ones which is response rate of 44%. The minimum number of samples needed for appropriate statistical analysis due to
Cochran’s formula (1977) was 77. General specifications of different firms are given in figure 2. It is Summary of results of companies’ general responsive sections that has been gathered by the questionnaire.

![Respondents Level of Education and Organizational Position](image)

**Figure 2.** General specification of sample

### 3.2.2 Measurement

We evaluate our construct measurement by examining the reliability and validity of the measurement scale. In order to examine reliability, we consider cronbach’s alpha, by using SPSS software. Since Cronbach’s alpha is 0.873 which is larger than 0.7 (Nunnally, 1978), the reliability is acceptable.

In this study, we investigate the impact of business strategic orientation, IS strategic orientation and the alignment of these two factors as independent variables on business performance as dependent variable in Iran. Each section of the questionnaire indicates a particular variable and the alignment is measured using moderation method as it has been explained previously in literature section. Thus, for estimating the effect of variables on business performance, regression analysis is suggested as the estimation method. We apply SPSS as a software and the following formula as a pattern in order to analyze data:

\[
BUS\text{-PERF} = \alpha + \beta BUS\text{-STR-OR} + \mu IS\text{-STR-OR} + \gamma STR\text{-ALIGN}
\]

**BUS-PERF:** Business performance

**BUS-STR-OR:** Business strategic orientation

**IS-STR-OR:** Information system strategic orientation

**STR-ALIGN:** Strategic alignment between business and IS strategies

### 4. Result

According to the type of variables that are ordinal multi-values, in this study spearman correlation test was used. Spearman correlation coefficient shows the intensity of linear relationship between two variables when both variables are ordinal or interval type (mehralizadeh, 2005, p. 59). Spearman correlation test for variables "Business strategic orientation", "IS strategic orientation", "Strategic alignment" and business performance of the firm shows that these variables, respectively, have correlation coefficients of 0.577 (p<0.01), 0.186 (p>0.05) and 0.654 (p<0.01). Statistics of variables in this research are shown in table 2; Spearman correlation coefficient is shown in table 3.
Table 2. Descriptive statistics of variables

<table>
<thead>
<tr>
<th>Strategic Orientation</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>STR_PRG</td>
<td>91</td>
<td>3.9333</td>
<td>.70189</td>
</tr>
<tr>
<td>STR_RSK</td>
<td>91</td>
<td>3.0583</td>
<td>.52011</td>
</tr>
<tr>
<td>STR_DEF</td>
<td>91</td>
<td>3.8389</td>
<td>.42737</td>
</tr>
<tr>
<td>STR_FUT</td>
<td>91</td>
<td>3.3917</td>
<td>.59166</td>
</tr>
<tr>
<td>STR_AGR</td>
<td>91</td>
<td>3.7167</td>
<td>.53967</td>
</tr>
<tr>
<td>STR_ANL</td>
<td>91</td>
<td>3.8083</td>
<td>.50499</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IS Strategic Orientation</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS_PRG</td>
<td>91</td>
<td>3.2778</td>
<td>.54950</td>
</tr>
<tr>
<td>IS_RSK</td>
<td>91</td>
<td>2.9000</td>
<td>.42982</td>
</tr>
<tr>
<td>IS_DEF</td>
<td>91</td>
<td>3.6278</td>
<td>.36870</td>
</tr>
<tr>
<td>IS_FUT</td>
<td>91</td>
<td>3.1500</td>
<td>.57711</td>
</tr>
<tr>
<td>IS_AGR</td>
<td>91</td>
<td>3.2667</td>
<td>.59280</td>
</tr>
<tr>
<td>IS_ANL</td>
<td>91</td>
<td>3.2583</td>
<td>.49993</td>
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</table>

<table>
<thead>
<tr>
<th>Alignment</th>
<th>Statistic</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
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<tr>
<td>ALIGN_PRG</td>
<td>91</td>
<td>12.8389</td>
<td>2.96781</td>
<td></td>
</tr>
<tr>
<td>ALIGN_RSK</td>
<td>91</td>
<td>8.9000</td>
<td>1.81285</td>
<td></td>
</tr>
<tr>
<td>ALIGN_DEF</td>
<td>91</td>
<td>13.9111</td>
<td>2.24646</td>
<td></td>
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<tr>
<td>ALIGN_FUT</td>
<td>91</td>
<td>10.6167</td>
<td>2.77916</td>
<td></td>
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<tr>
<td>ALIGN_AGR</td>
<td>91</td>
<td>12.1500</td>
<td>2.87641</td>
<td></td>
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<tr>
<td>ALIGN_ANL</td>
<td>91</td>
<td>12.2167</td>
<td>2.05510</td>
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<table>
<thead>
<tr>
<th>STROBE</th>
<th>STROPEIS</th>
<th>ALIGNMENT</th>
<th>BUS_PERF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spearman's rho</td>
<td>STROBE</td>
<td>Correlation Coefficient</td>
<td>1.000</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>STROPEIS</td>
<td>Correlation Coefficient</td>
<td>.029</td>
</tr>
<tr>
<td></td>
<td>ALIGNMENT</td>
<td>Correlation Coefficient</td>
<td>.548**</td>
</tr>
<tr>
<td></td>
<td>BUS_PERF</td>
<td>Correlation Coefficient</td>
<td>.577**</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STROBE</th>
<th>STROPEIS</th>
<th>STROBE</th>
<th>STROPEIS</th>
<th>STROBE</th>
<th>STROPEIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.000</td>
<td>.9992</td>
<td>1.000</td>
<td>.000</td>
<td>1.000</td>
<td>.865</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Even though the correlation coefficient shows intensity of the relationship between two variables, but cannot show the rate of change in the dependent variable when simultaneously affect from several independent variables. In these situations, multiple regression analysis helps the researcher to know how much of the variance in the dependent variable is explained by the same set of predictors. Therefore, to test the overall validity of the model, multiple regressions have been used. In order to test the hypothesis below multiple regressions analysis was conducted:
- Business strategic orientation has a positive impact on firm performance.
Information System strategic orientation has a positive impact on firm performance.

Strategic alignment of IS and business has a positive impact on firm performance.

In the estimated regression, associated components with the strategic alignment are the independent variables and dependent variable is firm performance. According to Watson test statistic obtained from ANOVA analysis and tolerance level (table 4), independence of errors and the linear nature of the relationship between variables confirmed. Therefore, the regression analysis and interpretation of results will be possible. Results of regression analysis are presented in Table 4.

Table 4. Regression estimation and model testing result

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.772a</td>
<td>.596</td>
<td>.567</td>
<td>.38252</td>
<td>1.987</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), STROPEIS, STROBE, IS_PERF, ALIGNMENT
b. Dependent Variable: BUS_PERF

The obtained regression shows the effect two components of strategic alignment and the moderated component that formed by means of multiplying these two variables on performance. According to that $R^2 = 0.596$, and $F=10.91$ in significance level 0.000 we can claim that identified three factors significantly affect firm performance. The 0.50 of the changes in firm performance are explained by the variables entered in the model. Also, according to the Standardized Beta and obtained sig, the following results for each of these factors can be expressed.

Although strategic orientation and alignment has a meaningful impact on business performance ($sig<0.01$), no positive impact was discovered between IS strategic orientation and business performance. Besides, Alignment of business and IS has the most positive impact on business performance; according to model confirmation, level of $F$ test which is equal to 10.91 and at the significant level of 95%, can be claimed that this hypothesis is not rejected, and in fact Alignment of business and IS has a positive impact on business performance.

Descriptive statistics of variables in this research are shown in table 2. And the results of Spearman correlation is shown in table 3. Table 4 shows the regression estimation and hypothesis results. According to these results, hypotheses were confirmed. The relation between business strategic orientation and business performance was significant (correlation coefficient: 0.577; $p<0.01$) which means that $H1$ is accepted. Also, IS strategic orientation is significantly related to business performance (correlation coefficient: 0.186; $p<0.05$) that accepts $H2$. The third hypothesis is composed of two parts. The first part argues about the existence of significant relation between strategic alignment and business performance which is statistically significant (correlation coefficient: 0.654; $p<0.01$). The second part, expresses a stronger relation between these two variables than the relation surveyed in $H1$ and $H2$. A comparison among the correlation coefficients in the model shows that the relation between alignment and performance is stronger than two other
variables. Thus, an increase in alignment leads to a more increase in business performance. Thus, this hypothesis is accepted.

5. Discussion

We discuss our hypotheses one by one:

5.1 (H1) Business Strategic Orientation Has a Significant and Positive Impact on Business Performance

This hypothesis is as same as results of a study conducted by Bergeron et al. (2005), which confirms a positive and significant correlation between the dimensions of strategic orientation and performance. Dong et al. (2008) in their research the positive effects of different types of strategic orientation on organizational performance, using the Miles and Snow typology.

To justify this result, findings by Narver and Slater (1990) can be cited. They believe strategic orientation of a corporation affect organizational culture. According to the results obtained, we can say that this culture will play a great impact on improving organizational performance. Correlation analysis between each of the dimensions of business strategic orientation and organizational performance shows positive and more significant relation between business performance and aggressiveness, proactiveness and analysis traits rather than other traits. Also, due to lack of competitiveness within many industries in Iran, instead of emphasizing on efficiency, organizations put their effort to gain effectiveness.

5.2 (H2) IS Strategic Orientation Has a Significant and Positive Impact on Business Performance.

A weak but positive relation is confirmed according to the positive coefficient (0.286, p<0.05). This can be expressed by the means of strategic oriented portfolio of systems used to support strategy in an organization (Chan et al., 1998). These systems may have indirect relation with performance through the strategy and not a direct relation on its own. It seems that the weak relation is the result of this kind of affection on the performance.

5.3 (H3) IS Strategic Alignment Has a Significant and Positive Impact on Business Performance

Analyzing from table 3, we see stronger relation comparing to strategic orientation and organizational performance. This matches our expectation due to optimizing and facilitating role of IS in organizations.

Chan et al. (1997) argued that the alignment affects business performance with more predictability than business strategic orientation. Also, in their research Juirou and Kalika (2004) hypothesis that "If IT strategy is aligned with corporate strategy (partnership), performance improves" Were tested. The results obtained in these studies confirm our results for this hypothesis.

5.4 (H4) IS Strategic Alignment Has a Stronger Impact on Business Performance Comparing with Business Strategic Orientation and IS Strategic Orientation

Aligning organizational resources and assets has been always one of the managers concerns. Information system can build a strong infrastructure inside and outside the firm. It is of high importance to analyze the cost-benefit assessment of using IT in the way it supports the organizational objectives. Overinvestment in IT can lead to loss of organizational resources and on the other hand underinvestment can put the firm far from reaching competitive advantage. This is
why existence of a strong relation between IS/business strategic alignment and business performance is acceptable. This is what Byrd (2006) argued.

6. Conclusion

As has already been proposed in this research, business strategic orientation and business performance have positive association. This is because of the long term decisions a firm makes by environmental and resource conditions taking into account. Among strategic traits it seems that aggressiveness, proactiveness, innovativeness and analysis traits are more correlated with business performance. Meaning that putting effort to seek market opportunities as much as focusing on organizational resources and the ability to innovate may increase business performance.

The results indicate that the correlation between strategic alignment and organizational performance is stronger than the relation between business strategic orientation and also strategic orientation of information systems and organizational performance. The high cost of providing updated and advanced information systems strategic without considering organizational resources and needs may lead to low organizational performance.

As previous studies show aligning business strategy with IS applications in an organization can be a factor to increase performance. In this study we applied a model to test this relation in Iranian firms. The relation was confirmed significantly and points a strategic weapon for managers whom want to align their organizational resources. Such an alignment is necessary to reach a competitive advantage especially in IT context.

References


