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Performance analysis of ISO Management System Standards certification Consulting Firms of Pakistan

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Abstract
International Standards of Organization (ISO) management system standards certification (IMS) is the most common standard way to benefit the companies that decided to use it. The reason for this research is to analyze the performance of IMS consulting firms in Pakistan and the initiatives taken by the Government of Pakistan (GoP) in the implementation of IMS in the organizations with a moderating role of International Register of Certificated Auditors (IRCA) to maintain quality of products and services in Pakistan. A positivist examination worldview with expressive cross-sectional exploration configuration was chosen to gather essential information from the top-level management, the middle-level, and the low-level employees of ISO-certified firms and team members working in ISO consultancy firms. The data was collected from different cities using an online survey, skype, and telephone because of COVID-19 restrictions. The findings of this study are that there are a total of 31 ISO-certified consulting firms/certification bodies working in Pakistan. Only eight of these are registered with Pakistan National Accreditation Council (PNAC) whereas the remaining are unregistered. The reason identified for the lesser amount of ISO certification in Pakistan is the lack of interest from the GOP. It is because they are not providing any incentive programs to IMS consulting firms.

Keywords
ISO Management System Standards certification, Consulting Firms, Government Initiatives, IRCA, Performance

Introduction

Many business companies improve their products and services by adopting different models, strategies, and devices to get practicable results. Quality-related assessments and practical issues are the leading body of exploration in the field of IMS (Dereli et al., 2011). Organizations rely on ISO standards and on IRCA, to enhance the quality of their product and to sustain themselves worldwide. In Pakistan, there are so many uncertain business problems. Kemal (2006) pointed out issues, which slow down development and lead to significant expenses because of the low-level quality items. These items do not follow global market standards. ISO certification is very important as it shows that an organization is working under some procedures that directly affect the quality of the product produced (Debby et al., 2015).

From the published research papers few key factors have been identified that help in improving the structure of the consulting firm. Leadership, Planning, Management review measuring and monitoring, Competence, awareness, and documented information and customer feedback. In business companies, the role is leadership is the most important designation. Leadership provides guidelines and planning to the organization to which

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the model of the organization works. According to the theory of Fielder's the leadership effectiveness will depend on the tasks, on person orientation, and on situational adaptation strategies (Fiedler, 1967). Lamb and Henry (1982) suggested that the planning should be more focused on top management strategic issues and the organizations should hire more highly experienced consultants. Employing less experienced consultants would be a threat to many large organizations. According to the study of Ambos and Schlegelmilch (2009), international consulting firms' knowledge management plays a fundamental part in the organization. Subsequently, many organizations have established their own complex knowledge management systems which are used as role models for other organizations. For organizations to improve product quality and enhance their activities it is important to collect and monitor customer feedback. Wisner and Corney (2001), found the significant factor in receiving customer feedback from business companies it ultimately improves product quality. Customer requirements are changing with time so it is important for the firms to update with customers' feedback which helps in improving the operational strategy and satisfaction. 15 key factors and elements are identified from the past published articles, which helps in improving the quality of products and services of business companies of Pakistan, which are; Continuous Improvement, Financial Performance, Customer Satisfaction, Quality of Product & Services, Communication, Documentation, Competition, Environmental Improvement, Company Performance, Reduction in Complaints, Delivery on Time, Stakeholder Relations, Competitive Advantage, Company Culture Improved, Exports Increased.

Literature review

Introduction to IRCA

IRCA was founded in 1919 as the Technical Inspection Association for ISO. It was established to improve the performance of organizations and for the assistance of customers and stakeholders. IRCA develops many policies and standards for organizations. By following these guidelines, companies can compete in the international market. This has set the gold standard for quality professionals and it is recognized internationally. It ensures that the quality of the profession is trusted and that a value-oriented society is based on expertise and results. This really makes organizations better and better (IRCA, 2018).

Performance of ISO Management System Consulting Firms and Quality of Product of the Business Company

According to Iqbal et al., (2017), the impact of ISO certification is significant on quality awareness, operations execution, and productivity. ISO standards lead to many operational and marketing benefits for the business. Consequently, a firm can improve its overall financial performance. ISO 9000 certification increases a company's market share, improves customer satisfaction, and increases in sales revenue. ISO management system standards lead toward efficient marketing and operations. Nawar et al., (2022) have identified 13 major business improvement factors of the ISO management system standards. Another study by Aranki et al. (2019) investigated the satisfaction of project managers of both ISO-certified organizations and non-ISO-certified organizations and explains that ISO provides project-oriented companies with a new strategic direction to see what's happening, rather than just focusing on customer satisfaction. Moreover, Huda and Firdaus (2021) discuss in their study that ISO implementation is significantly related to customer satisfaction, sales revenue, market share, and quality awareness.

Proposition 1. The performance of ISO management system consulting firms is related to government initiatives.

Performance of ISO Management System Standards Certification Consulting Firms and Quality of Product of a Business Company

In some companies, performance is used to measure design and manage the quality of the product (Lourdes, 2006). Some companies are focusing to increase the performance of their company by satisfying the needs of their customers. This should be highly observed in any organization where the

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aim of the company is to enhance the quality of the product. There should be proper arrangements for organizing training programs for employees and making it evident that ISO certification matters in every field of work (Ilkay, & Aslan, 2012). Consequently, the adoption of ISO certification creates quality awareness and increases operational efficiency and the productivity of organizations.

Proposition 2. The performance of an ISO management system consulting firm is positively and significantly related to the Quality of the products of the Business Company.

Government Initiatives and Quality Of Product of the Business Company

To export internationally there are many requirements of quality standards in products and services in which Pakistani is struggling. Pakistan has limited resources for imports and exports from the international market. To achieve profits and compete internationally it is important to manufacture good quality products (Kemal, 2006). The GOP had taken admirable steps in 1990 to support quality awareness and to tackle global challenges and opportunities. Pakistan established different institutes that are looking to control quality measures. Under the Ministry of Science and Technology (MOST), Pakistan Standards Institute (PSI), Central Testing Laboratories (CTL), Metal Industries Research and Development Centre (MIRDC), and the Pakistan Standards and Quality Control Authority (PSQCA). The initiative taken by the GOP provided guidelines and make a foundation for the firms to meet the criteria and export their products internationally.

Proposition 3. Government initiatives are significantly related to the Quality of products of Business Companies.

Performance of ISO Management System Consulting Firm, Government Initiatives, and Quality of Product of the Business Company

It is the responsibility of the government to handle the affairs of the country at all levels as it is perceived as an economic, political, and administrative authority in both the public and private sectors. The GOP decided to improve the certification substructure to simplify trade, boost the export system, increase economic development, and protect the environment as well as provide the best quality in the healthcare sectors by implementing the policy, quality, and productivity provided by ISO. In Pakistan, the first confirmation of ISO certification was recognized in 1994 (Domingues et al., 2016). GOP supported the process and allocated incentives for ISO certifications for the firms. The GOP launched in 2014 to achieve National Vision 2025. Under the scheme, small to medium-sized organizations are not limited to ISO standards, they are highly encouraged to obtain ISO certification (MOST, 2018). *Proposition 4.* Government initiatives significantly mediate the performance of ISO management system consulting firms.

Performance of ISO Management System Consulting Firms, the Role of IRCA, and The Quality of Product of the Business Company Consulting is a skilled work offered as a service in the business (Lorsch & Thierney, 2002; Scott, 1998). Better organizations can manage their employees in a better way and achieve better results. The success of IMS consulting firms (certification bodies) depends on the performance of the company (Graubner & Richter, 2003). ISO management system standards certification consulting firms are very important for highly qualified candidates with experience in different disciplines and open employment relationships (Armbruster, 2004; Kipping, 2012).

Proposition 5. The role of IRCA moderates the relation between the performance of ISO management system consulting firms in such a way that increases the role of IRCA and will strengthen the relation of quality of product of Business Company.

Theoretical Research Framework

In the theoretical research framework, four variables are used. Performance of ISO management system consulting firms is (IV), IRCA is (MED), Government Initiative is (MOD) and Quality of product and services of Business is (DV). The theoretical research model is shown in Figure 1.

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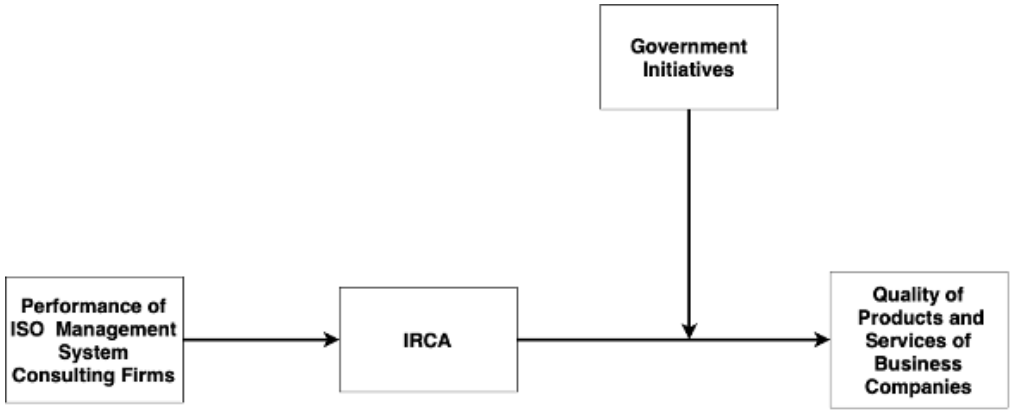

Figure 1. *Theoretical research framework.*

Methods and measures

Methodology

Population, sampling, and data collection. This research design is quantitative in nature, adopting a positive research philosophy with a deductive approach. Under the non-probability sampling technique, convenience sampling was chosen due to time constraints. This ensures the research is neutral and independent during the experiment while using a large sample to test the hypotheses developed from existing theories (Saunders et al., 2019). Questionnaires were self-developed by the author and respondents were advised to comment on questions posed in the questionnaire about other aspects of the questions if they were not clear of any ambiguity or sense of questions. Suggestions from respondents to the pilot study were included in the pilot's questionnaire, which led to the final version of the questionnaire. The Focus group of this study was all educated, so translation into the local language was not required. In this study, a pilot test of a structured questionnaire was conducted using samples from 30 respondents from ISO-certified consulting firms in Pakistan including Directors, consultants, managers, and Professors. The approach to the members was gained through the website of the Ministry of Science and Technology (MOST) Pakistan by using the convenience sampling technique. Assurance is given to respondents for the privacy and confidentially of data and it is only used for educational and survey purposes. Overall,
450 questionnaires were distributed and 273 questionnaires were received from the respondents. Out of these, 18 questionnaires were discarded due to ambiguity and incomplete answers. A final analysis was performed on 237 questionnaires with a response rate of 52.66% approximately.
According to the literature, it is not possible to achieve a 100% response rate due to multiple reasons (Baruch & Holtom, 2008). Based on the arguments of (Saunders et al., 2009), having a higher response rate than 85% is considered the best, and a rate of above 70% is considered very good. A response rate above 60% is considered good and a rate of response above 50% is acceptable and responsive. The data was collected and analyzed in three stages. It comprises of low-level, top-level, and middle-level management of ISO-certified organizations in Pakistan. The smart PLS and SPSS tools are used to calculate the mean for different options respectively. The choice of research is quantitative to achieve better results.

Measures

All the questionnaire responses were recorded using a five-point Likert scale from 1 to 5 where 1 refers to strongly disagree 2 refers to agree 3 refers to neither agree nor disagree 4 refers to disagree and 5 refers to strongly agree. The detailed questionnaires were attached in Annex A of the research paper. An overview of the following steps and sample items is provided below:

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ISO Management System Standards Certification Consulting Firms (Certification Bodies). ISO consulting firm (certification bodies) was measured using a 07-item scale. The sample question is 'To what extent does the ISO certification improve profitability by reducing the extra cost?' It has a Cronbach's alpha reliability of 0.757.

Quality of Product of Business Company. The quality of the product of the business company was measured using a 08-item scale. The sample question is 'Product / Service quality can be improved by the adoption of ISO certification by any organization regardless of their firm size'. Its Cronbach's alpha reliability was 0.710.

Government Initiatives. Government initiatives were measured using a 05-item scale. The sample question is 'The use of International Standards helps us manufacture quality products in our organizations?' Its Cronbach's alpha reliability came out to be 0.809.

IRCA. IRCA was measured using a 04-item scale. The sample question is 'Does IRCA has formulated the criteria to monitor the efficiency of the company?' Its Cronbach's alpha reliability came out to be 0.794.

Results and Findings

Measurement model (interpretation)

Convergent Validity. The confirmatory factor analysis (CFA), was implemented by using 'Smart-PLS' software. It analyzed and validated the scales. For proper accuracy of scale, the minimum value for the loading factor is 0.5, the value for average variable extracted (AVE) is 0.50, and for composite reliability (CR) it is >0.60. Similarly for construction reliability, the minimum value must be >0.70, and Cronbach Alpha must be >0.6 (Fornell & Larcker, 1981). According to the results below, the factor loading of all items is within the minimum threshold, i.e., except CF5, PF1, PF3, and PF5, 0.7 or above. Therefore, the mentioned items were deleted, as the factor loading was low as shown in Figure 2.

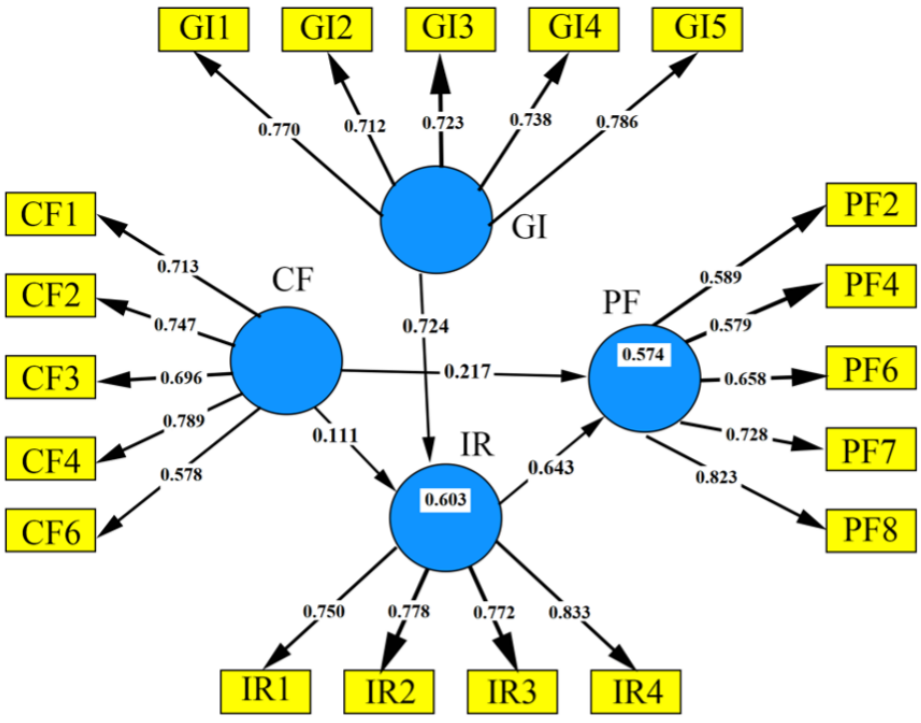

Figure 2. *Confirmatory factor analysis.*

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Constructs	Items	Loadings	Cronbach Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
CF	CF1	0.713	0.757	0.833	0.501
	CF2	0.747			
	CF3	0.696			
	CF4	0.789			
	CF6	0.578			
GI	GI1	0.770	0.809	0.862	0.557
	GI2	0.712			
	GI3	0.723			
	GI4	0.738			
	GI5	0.786			
IR	IR1	0.750	0.794	0.864	0.615
	IR2	0.778			
	IR3	0.772			
	IR4	0.833			
PF	PF2	0.589	0.710	0.810	0.464
	PF4	0.579			
	PF6	0.658			
	PF7	0.728			
	PF8	0.823			

Table 1. *Measurement Model.*

Cronbach Alpha, AVE, and construct reliability are shown in Table 1. According to the literature, these values lie within their respective threshold levels.

Discriminant Validity. Using Discriminant validity, it is ensured that each and every variable is different from the other. This is calculated by two methods, namely Fornell & Larcker's standard, and the HTMT ratio. The values in Table 2 show that all the values of the diagonal are larger than the respective non-diagonal values which confirms that the discriminatory validity of the study variables is true according to the criteria of Fornell and Larcker. In Table 3 it is evident that the values of all variables are greater than the threshold value of <0.85 except PF. This is the minimum allowable level for the HTMT ratio.

Variables	1	2	3	4	5
CF	0.708				
GI	0.412	0.746			
IR	0.409	0.767	0.784		
MODERATING EFFECT	-0.026	-0.240	-0.121	1.000	
PF	0.478	0.637	0.736	-0.011	0.680

CF =ISO management system standards certification consulting firms – PF =Quality of products and services of business companies – GI =Government Initiatives – IR =IRCA.

Table 2. *Fornell and Larcker's Criterion*

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The bold values in Table 3 indicate the discriminant validity using the HTMT criteria set at 0.85. This indicates the presence of collinearity in the latent constructs (multi-collinearity). The constructs of government initiatives-IRCA, IRCA- Quality of products and services of business companies are having problems.

Table 3. *Heterotrait-Monotrait (HTMT)*

Variables	CF	GI	IR	PF
CF				
GI	0.495			
IR	0.486	**0.945**		
MODERATING EFFECT	0.063	0.267	0.134	
PF	0.615	0.772	**0.941**	0.139

CF =ISO management system standards certification consulting firms – PF =Quality of products and services of business companies – GI =Government Initiatives – IR =IRCA

Correlation Coefficients. This test is performed in SPSS. The correlation of all the variables is shown in Table 4. Results indicate that the variables are positively related to each other. The quality of products and services of business companies are positively correlated with their ISO consulting firm ($r = 0.544$, $p < 0.01$), Government initiative is positively correlated with their CF ($r = 0.432$, $p < 0.01$), and the quality of products and services of business companies ($r = 0.522$, $p < 0.01$). IRCA has a significant and positive relationship with their ISO consulting firm ($r = 0.450$, $p < 0.01$), quality of products and services of business companies ($r = 0.683$, $p < 0.01$), and Government initiative ($r = 0.764$, $p < 0.01$).

Table 4. *Correlation coefficients of variables*

Variables	1	2	3	4
CF	1			
PF	.544	1		
GI	.432	.522	1	
IR	.450	.683	.764	1

For all correlations coefficients, $p < 0.01$ level (2-tailed), $n = 237$.
CF =ISO management system standards certification consulting firms – PF =Quality of products and services of business companies – GI =Government Initiatives – IR =IRCA

Structural Equation Model

The software used in this study was Smart-PLS (Hair Jr et al., 2014). External models were used to measure and examine specific indirect and indirect pathways to review the complete model of this study. The structural model was estimated by bootstrapping to five thousand iterations for pathway analysis. The results are displayed in Figure 3 and Figure 4. In Figure 3 beta values and R, classes are identified.

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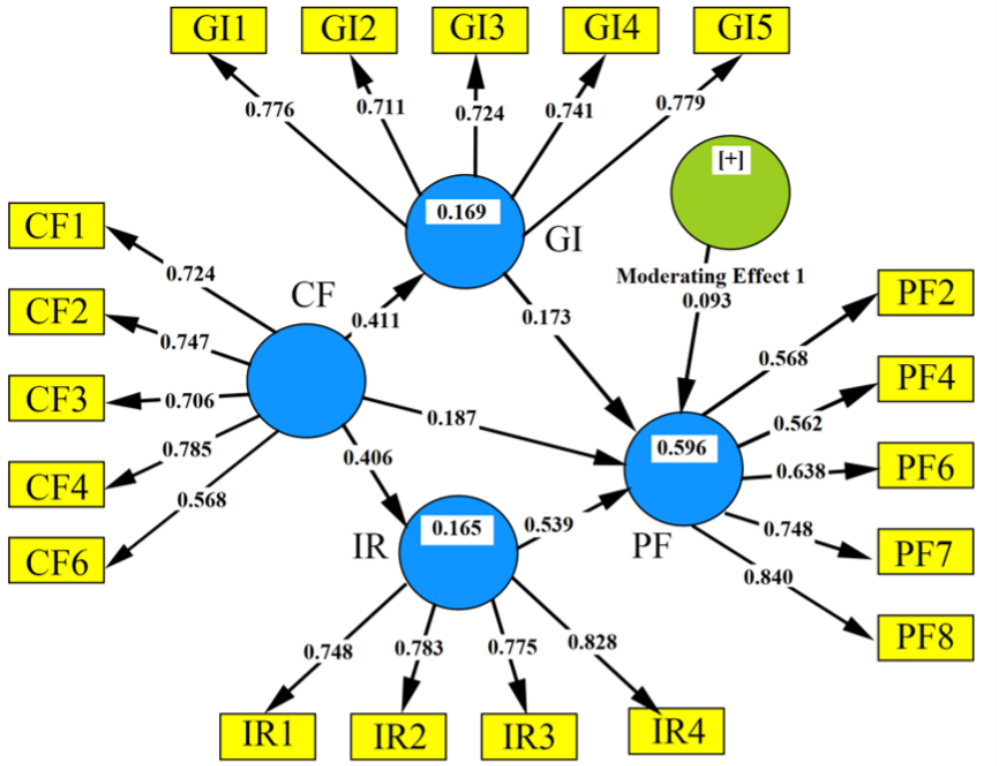

Figure 3.
Algorithmic analysis

In Figure 4 bootstrapping results are displayed which show the significance of the data (p values).

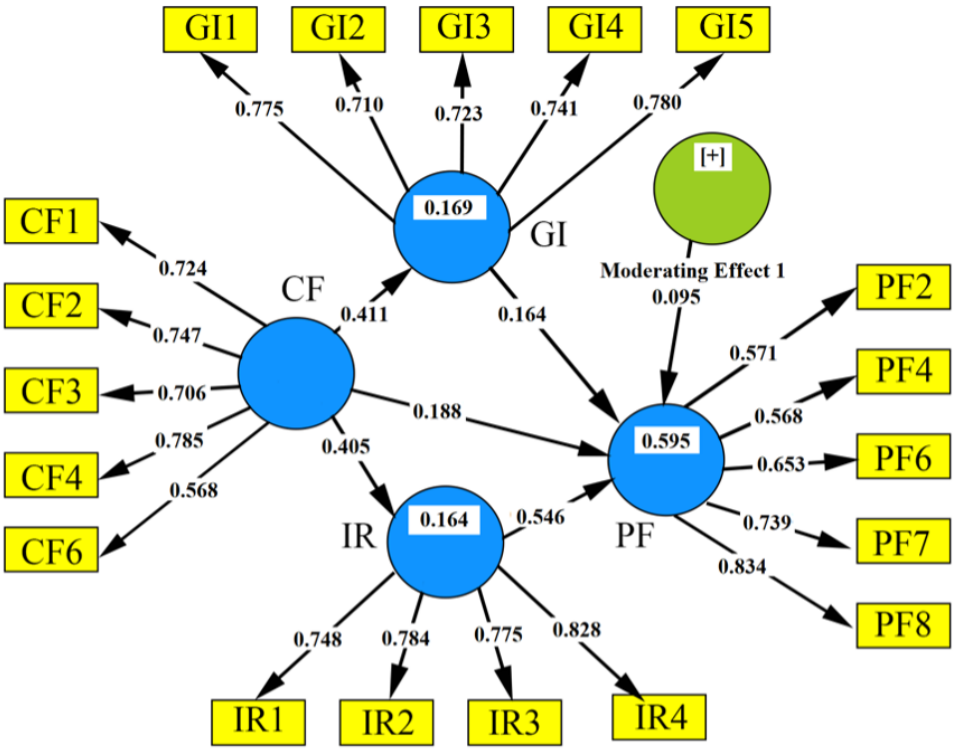

Figure 4
Bootstrapping

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Moderation and Mediation Analysis

In step 1, the association between the ISO consulting firm (IV) and the quality of products and services of business companies (DV) is significant (t=3.594, p = 0.000). Step 2 showed that the association between ISO consulting firm (IV) and moderator Government initiatives is significant (t=7.579, p = 0.000). Step 3 showed that the association between moderator (Government initiatives) and DV (quality of products and services of business companies is significant (t = 2.039, p = 0.042). Step 4 showed that the association between ISO consulting firm (IV) moderator Government initiatives and DV (quality of products and services of business companies is non-significant (t = 1.855, p = 0.064). Table 5 shows the results of mediating variable i.e., IRCA which accounted for a significant amount of variance in the quality of products and services of business companies (t = 5.069, p = 0.000).

Hypotheses	Relationship	Original sample (O)	Sample mean (M)	Standard deviation (SETDEV)	T Statistics {O/STDEV}	p-Values
H1	CF→PF	0.188	0.192	0.052	3.594	0.000
H2	CF→GI	0.411	0.423	0.054	7.579	0.000
H3	GI→PF	0.164	0.167	0.080	2.039	0.042
H4	CF→GI→PF	0.067	0.071	0.036	1.855	0.064
H5	CF→IR→PF	0.222	0.228	0.044	5.069	0.000

Table 5. *Hypotheses results*

Moderation Slope Diagram

To check our hypothesis of moderation, CF and PF were plotted as interaction terms. The graph in Figure 5 depicts the moderation graph for ISO Consulting Firms and the quality of products and services of business companies. The positive relationship between ISO Consulting Firms and the Performance of ISO is stronger when Government Initiatives (GI) are high. Thus, supporting Moderation Hypothesis.

Figure 5. *Moderation slope diagram*

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Discussion

The majority (85%) of respondents reported that the Pakistani government is not interested in SME companies in Pakistan competing internationally. It is because they are not awarding any incentives to the Pakistani business. The ISO certification cost is higher in Pakistan, so most of companies cannot afford it. The majority (95%) of respondents reported that the IRCA is contributing significantly to Pakistani businesses. Most companies cannot audit or give services of ISO consultation without having lead auditor training courses. From the literature review, it has been evident that the performance of the company depends on its size and growth. Eventually, many companies are working under ISO management system standards, and many companies are following the rule defined by IRCA. Unfortunately, in Pakistan, many companies did not go for the renewal of ISO certification. Compared to developed countries, ISO certification is mandatory. Various other research has shown that the performance of ISO management system standards certification consulting firms depends on measures taken by the government. In developed countries, government support is provided to increase and obtain finances (Malik & Tian, 2011). In ISO management system standards certification, the lead auditor plays an essential role in the company's performance. As it is evident from the literature review, the more auditors the company has more chances to succeed and increase its performance because auditors have to complete all the documentation work financial statements, and surveys.

Operational Model for ISO Management System Standards Certification Consulting Firms (Certification Bodies)

The operational model based on this research study is shown in Figure 6.

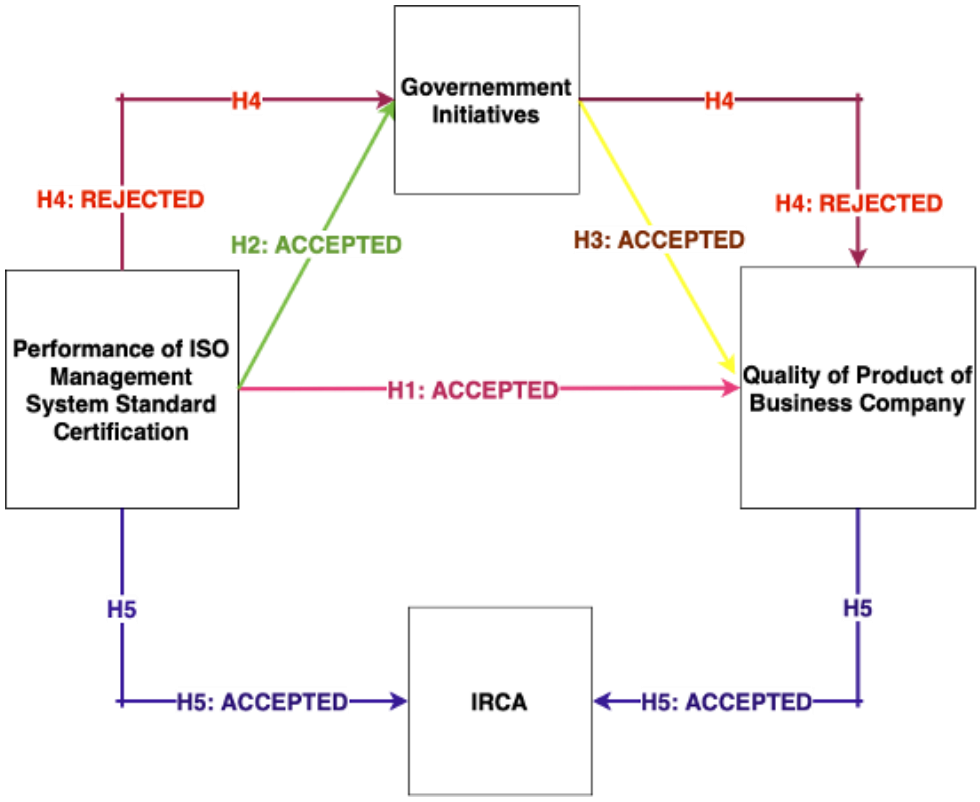

Figure 6
The operational model for ISO management system standards certification consulting firms

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Development of a Model for ISO Management System Standards Certification Consulting Firms (Certification Bodies)

The following criteria are used to develop a model for ISO management system standards certification consulting firms based on the studies of (Singh et al., 2006 and Syah et al., 2020) as shown in Figure 7.

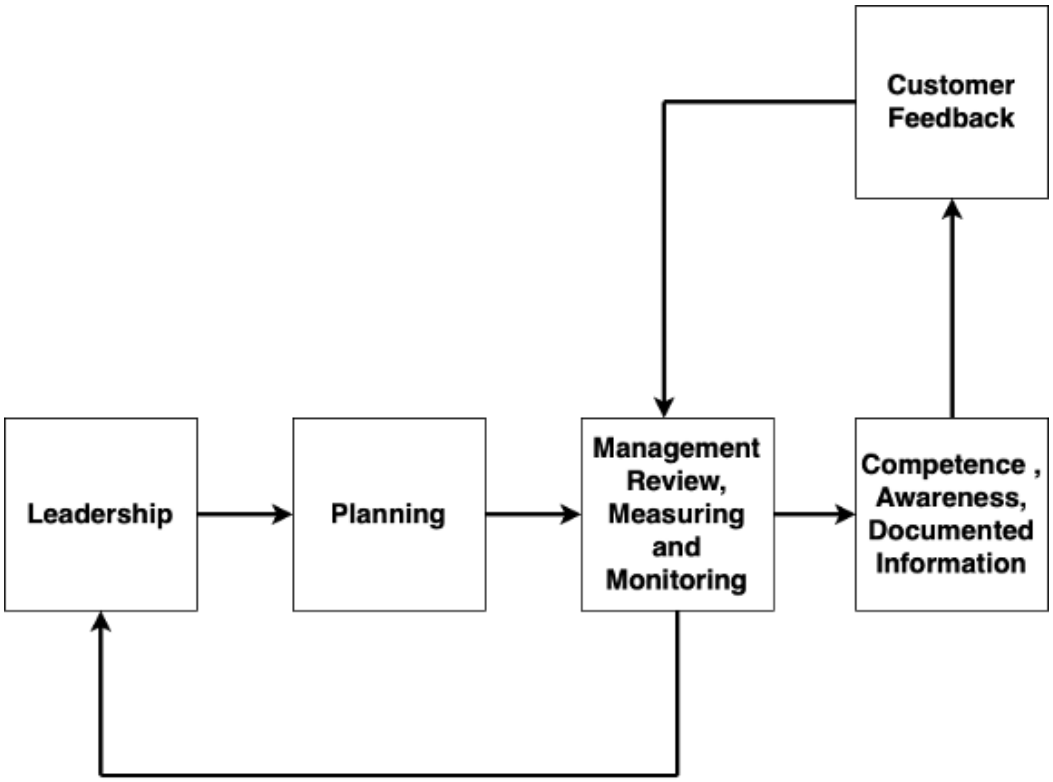

Figure 7
The framework of a model ISO Company

Leadership

It plays a vital role in any organization. Leadership or top management will ensure achieving strategic goals through motivating employees, timely delivery of services, and a well-organized hierarchy of staff.

Planning

Risk minimization and opportunity management are fundamental skills required by any ISO consulting firm (certification bodies). Organizations are increasingly demanding to remove risks and increase opportunities by identifying and exploiting them. To improve the efficiency and credibility of ISO consultation, it is mandatory to understand the risks and opportunities of the system.

Management Review, Measuring, and Monitoring. These major functions make the above elements together. For the growth of an ISO consulting firm (Certification body), it is mandatory to have common goals, and results, analyze customers' feedback, and re-measure business frequency. It provides organizational strategic alignment with the leadership and ensures that the procedures defined by the organization are followed and maintained (Kipping and Clark, 2012).

Competence, awareness and documented information. The consultants or auditors must be qualified and skilled. They should have complete knowledge and expertise of ISO. The documentation work should be finished on time and it is helpful for both the consultant and the client.

Customer feedback. In the researcher's opinion, feedback from the customers is the most important part of an ISO consulting firm through which

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organizations improve their work. ISO consultancy can take many procedures sometimes it is complicated and time-consuming. It is important to learn from past experiences and aim to improve relationships with customers and stakeholders.

Conclusions and Recommendations

Conclusions

The Government of Pakistan has its own consultation firms so they are more focused to give services from their channel. Hence, there are limited consulting companies working individually. There is a lack of awareness among the companies. One reason is that the government is not putting effort to enhance the performance of local consulting firms. The other factor is that ISO consultation and training are very much expensive so it causes difficulty for the companies to grow at that stage.

Recommendations

Future research should be a comparison between Pakistani ISO management system standards certification consulting firms (certification bodies) and international consulting firms or certification bodies. There should be mixed-method research both qualitative and quantitative to check the role of Initiatives taken by the Pakistani government on ISO consultation firms, in more depth. There should be proper research on Pakistan National Accreditation Council (PNAC). There should be more research on IRCA audit programs and their impact on SMEs.

Declaration and Statements

Supplementary Materials. The supplementary data for this research work is available at request.

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Institutional Review Board Statement. Not applicable

Informed Consent Statement. Not applicable

Data Availability Statement. Not applicable

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Conflicts of Interest. The authors declare no conflict of interest.

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