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RESEARCH ARTICLE **Open Access**

A Grounded Theory Approach to Developing a Partnership Quality Model in Service Outsourcing

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Abstract

Partnership quality has been known as one of the foremost critical determinants of outsourcing victory. Since the relationship is dynamic, it is important to understand both sides of the partner. The purpose of this study is design a model for the partnership quality in outsourcing services with focus on both sides. In order to achieve this goal, mixed method (qualitative-quantitative) and grounded theory approach have been used. In the qualitative section, in order to identify the categories of the contextual model of partnership quality, a semistructured interview has been used in the service provider and client section by theoretical sampling method. The statistical population in the qualitative section included all managers and heads and expert contractors in 90 contracts during the 3 years. The total number of statistical population in the qualitative section was 176 people. In the qualitative section, grounded theory and MAXQDA software are used for analysis. Then, through the coding process in three sections, open, central and selective data of qualitative section were organized. In the quantitative research section, the statistical population included district heads, deputies, officials, supervisors on the one hand, and all their contractors and representatives on the other. The total number of statistical population in the quantitative section was 623 people. In the quantitative research section, in order to test the obtained pattern, the required data were collected by a designed questionnaire. To analyses the data collected, the partial least squares (PLS) method was used. According to the results of this research, the most important operational strategies are, empowerment, standardization and technology improvement to achieve the partnership quality in outsourcing services.

Keywords: *Service Outsourcing, Partnership Quality, Outsourcing Success, Grounded Theory*

Introduction

Outsourcing development has become a necessity for public administrations in many countries as it helps to overcome shortages in capacity, financial resources, and skills. The most common challenge for public administrations to manage contractual and organizational relationships with the private sector is the partnership among partners. Since the disappointment rate of logistics outsourcing is still high, while firms outsource their logistics activities (Yuan, Chu, Lai, & Wu, 2020). The partnership may be a connection with destitute control and a tall degree of believe within the execution of the contract (Ali, Abbasi, Mustafa, Wahid, & Huang, 2022). Outsourcing partnerships are much better device for overcoming specialized instability and ambiguities, for that reason, it can efficaciously bargain with instability by exchanging information on bizarre formative occasions (Peachey, Cohen, Shin, & Fusaro, 2018). This can be a vital subject to address, as outsourcing may

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not provide its affirmed preferences advantages (e.g. cost, adaptability, get to to competencies) if those relations are not legitimately overseen since the cost of failure, due to the large sums included in some contracts, can be significant (Duhamel, Gutiérrez-Martínez, Picazo-Vela, & Luna-Reyes, 2018). Partnership is broadly detailed within the management literature (Newell, Ellegaard, & Esbjerg, 2019) but past authors have tended to some of the issues of outsourcing (Ali et al., 2022). previous studies identifies partnerships factor but larger part of the studies conducted in the domain of outsourcing partnerships are from the point of view of IT outsourcing (Blijleven, Gong, Mehrsai, & Koelemeijer, 2019; Cha & Kim, 2018; de Carvalho, Poleto, & Seixas, 2018; Gopalakrishnan, Guilbault, & Ojha, 2017; Mehta & Mehta, 2017; Rahman, Raza, Afsar, & Khan, 2021) or outsourcing software (Ahimbisibwe, 2015; Ali et al., 2022; Ismail & Razali, 2017). Only few studies have been conducted on some of the aspects of services outsourcing. However, empirical studies stay rare (Duhamel et al., 2018; Lee, 2001; Lee & Kim, 1999). Those studies show that a larger part of clients are not encountering the benefits that they anticipated to attain. Organizations are willing to pay the cost of working on an outsourcing relationship until they determine how to make it useful since they perceive value in it (Schwarz, 2014) but making, building up, and managing relationship is not easy (Ee, Abdul Halim, & Ramayah, 2013). However, less is known around what changes (if any) are vital to realize these benefits through outsourcing (de Carvalho et al., 2018; Gupta & Sushil, 2014; Mehta & Mehta, 2017; Rahman et al., 2021; Rahman, Raza, Afsar, Khan, & Nazir, 2020; Schwarz, 2014). In order to sure the outsourcing success, the partnership quality must be set up well (Newell et al., 2019; Peachey et al., 2018; Rave & Piskin, 2019).

Consistent with the above explanation, this study aims to establish a theoretical framework for partnership quality associated with a deeper understanding of the issue, and a more comprehensive and broader scope of the dimensions of partnership quality. Generally, fulfillment in outsourcing connections has centered on the client side (Gopalakrishnan et al., 2017; Liu, Huang Chua, & Hu, 2021). Since the relationship is dynamic, it is important to understand both sides of the partnership and in this study, we focus on both sides.

We emphasize the importance of partnership quality for success in services outsourcing. Elaborating upon the model proposed by Strauss and Corbin (1990). Grounded Theory methodology is used in this article and the relationships presented in this model, the results of the development, performance, and outcomes of services outsourcing in Isfahan Gas Company (I.G.C) are presented. This paper consists of several sections. First, a review of the literature develops a taxonomy of conceptual approaches of partnership quality in services outsourcing to reveal significant research gaps in this aspect. In this section, the article introduces a theoretical framework linking processes, structures, and outcomes. Within the second part, the research methodology is presented. In Section 3, Grounded Theory methodology in IGC is developed to contrast how the factors presented in the model worked in practice. In the discussion section, the antecedents of interface characteristics in services outsourcing relationships are highlighted. Finally, in the conclusion, limitations of the study and implications for research and practice are presented.

Background

Organizations sometimes transfer the certain activities execution to other firms to obtain benefits that range from cost savings to the ability to focus on inner efforts in core activities. The formal title of this transfer is outsourcing (de Carvalho et al., 2018). Many of these relationships are strategic, in the sense that they are underpin clients' business strategies, and the client can become extremely dependent on service provider performance and capabilities. Collaborative relations such as outsourcing partnership are

an essential measure of today's trade success. These are ordered as support, alignment, reliance, and union. A collaborative relationship with low control and high trust in executing the contract is called a union. Partnership in outsourcing is one type of a union. It is that type of union which is a composition of both partnering and outsourcing (Ali, Hongqi, Khan, Zhongguo, & Liping, 2017). In this manner, a profound understanding of both terms is required to get it the collective term "outsourcing partnership". Literature review deals with the determinants of partnership in outsourcing relations between receiver-provider services. Several theories have been used to evaluate the partnership relations in outsourcing contracts.

Partnership Quality

Partnership relationships are defined as: "relatively long-lasting inter-company cooperation agreements, which involve flows and links that use resources and / or governance structures of autonomous organizations, for the joint achievement of individual objectives linked to the corporate mission of each sponsoring firm"(Ee et al., 2013). Research has generally found that partnership between service providers and the services receiver is a key success factor in outsourcing services (Ren, Ngai, & Cho, 2010). Partnership allows the outsourcing firm to pick up get to resources that are not accessible inside and to capitalize on assets accessible to providers. Partnership is characterized as an interfirm relationship where parties included have a long- term commitment to working together to attain common destinations (Liu et al., 2021). A partnership is a coalition of cooperation between autonomic organizations (Ali et al., 2022). Partnership quality is a resource that can help the company to obtain competitive advantage through the success of the outsourcing (Espino-Rodríguez & Ramírez-Fierro, 2018). To pick up competitive advantage through the success of the outsourcing, partnership quality is a resource that offer assistance the firm. Partnership quality could be a relational resource that can permit competitive advantage to develop through collaboration among companies (Espino-Rodríguez & Ramírez-Fierro, 2018). In service outsourcing, partnership refers to the cooperative relationship between the service providers and the services receiver in which both willingly commit to the enrollment of suitable candidates and share benefits and risks. Since outsourcing partnership is the special type of outsourcing relationship where accomplices share information of uncontemplated events, to overcome technological uncertainty, outsourcing partnership is a fine tool (Ali et al., 2017).

Previous studies applied show a significant relationship between partnership quality and outsourcing success. Partnership quality has an impression on long-term durability in service providers and the services receiver relationships (Espino-Rodríguez & Ramírez-Fierro, 2018). A greater outsourcing relationship management process can improve the outsourcing performance. Genuine partnership happens when both service providers and the services receiver view the relationship as a topic of interest, regardless of other arresting alternatives (Ali et al., 2022; Liu et al., 2021). The specific distinction between a partnership and a contractual relationship is that in conventional contract-based outsourcing arrangements main focus is given on achieving specified business goals through the fulfillment of formally signed contract while in a partnership relationship organizations mainly focus on obtaining mutual trust and realizing broad business objectives (Ali et al., 2022; Newell et al., 2019). A fine partnership involves commitment, trust, business comprehension, effective conflict resolution and benefits and risk sharing (Ali et al., 2022; Liu et al., 2021). Relationships with some features to form a trust are part of partnerships literature (Newell et al., 2019). In most well service outsourcing partnerships, the service provider goes beyond providing a list of potential candidates to the firm. The service provider

will be able to suggest candidates compatible with organizational necessities, culture, goals, and vision; deliver value-added services, such as employer brand management; the outsourcing firm is additionally willing to expand collaboration with the service provider (e.g., training of new hires) (Liu et al., 2021). Both parties hence will be able to pick up competitive advantage through the partnership.

Lee and Kim (1999) propose that a partnership has its own factors that produce quality. They introduced five factors that make up partnership quality: trust, commitment, business understanding, conflict resolution and shared benefits and risks (Lee & Kim, 1999). Anderson and Narus (1990) show that trust, communication, and management participation make it possible to achieve high quality inter-organizational relationships (Anderson & Narus, 1990). Svensson et al., (2010) establish that the trust and commitment between organizations has a stronger effect on the partnership quality (Svensson, Mysen, & Payan, 2010). Partnership quality is based on relationships managed by commitment, business understanding, confidence, conflict resolution and shared benefits and risks (Espino-Rodríguez & Ramírez-Fierro, 2018). Katato et al. (2019) identify factors affecting long-term business outsourcing relationships (Katato, Leelawat, & Tang, 2019). Bashir et al. (2020), identify success factor for software process improvement in outsourcing organizations such as trust, satisfaction, commitment-based organizational culture, mutual understanding, information sharing, and strong relationship between partners (Bashir, Hamid, Jhanjhi, & Humayun, 2020).

However, these considers explore outsourcing contexts that are not service outsourcing. Service outsourcing differs from these contexts as the deliverables are not steady entities and have special characteristics based on individual qualities and assets. In this study, we study how all factors simultaneously contribute to partnership quality. Also, these studies focus on both sides (service providers and the services receiver) rather than one side.

Research Methodology

According to the purpose, the orientation of this research is fundamental because a model in the field of partnership quality in Services Outsourcing for Isfahan Gas Company (IGC) is proposed by theorizing. According to the data collection methodology, this research is considered as a descriptive research, using a qualitative approach. The necessary steps of the qualitative stage of the research can be ordered into three stage of preliminary studies, main studies, and supplementary measures (Fateh, Mohammadi, & Mousavi Moheb, 2023). The information collection methodology is based on deep interviews with IGC and provider professionals. This research uses a theory research strategy arising from data to collect and analyze. When there is a need to a theory for a process explanation, this requires the use of a strategy which ensures theory building. It is important for practicing empirical researchers to construct hybrid designs when no design from any of the current Mix Method-design typologies directly fits their needs (Tashakkori & Teddlie, 2010). The mix method is an inductive approach (considering both quantitative and qualitative approaches) employed mostly for immeasurable (Samadpouri Javid, Soltani, Kazemi, & Jafarpour, 2023). Phenomena and processes in these circumstances, the researchers proposed the use of mixed method (qualitative-quantitative) and grounded theory approach. Mixed methods–grounded theory has become an important topic in the mixed methods research and grounded theory research literatures (Creamer & Schoonenboom, 2018; Guetterman, Babchuk, Howell Smith, & Stevens, 2019; Walsh, 2015).

Case

The National Iranian Gas Company-Isfahan Gas Company (IGC) was established and started its activities in 1999. Currently,

the IGC supplies more than 70 percent of the Isfahan's energy needs. IGC has increased outsourcing in all the logistics, technical, maintenance and procurement services, pipelines, and access roads. IGC has increased outsourcing in all logistics, technical, maintenance and procurement services, pipelines and access roads. Relying on the ability of service companies in the fields of engineering, procurement, construction of pipeline and station projects, this company is looking for a model to improve its relations with them and increase success in outsourcing.

Grounded Theory

Social phenomena in the social sciences are investigated by different technique and application of each technique depends on paradigmatic feature (Far, Kaffashpoor, & Naami, 2022). Grounded theory is a systematic methodology within the social sciences including the construction of theories through methodical gathering and investigation of data (Faggiolani, 2011). This method allows the researcher to develop a theoretical report of the characteristics of the subject (Tarvirdizadeh, Mirzaeidaryani, Nahidi AmirKhiz, Pasbani, & Honarmand Azimi, 2021). Grounded theory was developed by two sociologists, Glaser and Strauss. It could be a way of arriving at theory suited to its assumed uses (A. L. Strauss & Glaser, 2009). Grounded theory method does not objective for the "truth" but to conceptualize what is going on by using empirical research.

However, the researcher does not formulate the hypotheses in advance, when using the grounded theory method, since the preconceived hypotheses result in a theory that is not based on the data (Bryant & Charmaz, 2007). Grounded theory technique is marked by differences of opinion and divergences in paradigms, sorts, methods of insight, approaches, and methods. Grounded theory has several approaches (Ralph, Birks, & Chapman, 2015):

Traditional GT related with Glaser. Acknowledged that the goal of traditional GT is to create a conceptual theory that accounts for a pattern of behaviour that is relevant and problematic for those included. Evolved GT related with Strauss, Corbin and Clarke; it is established on symbolic interactionism. Constructivist GT, has its roots in constructivism, explicated and developed by Charmaz, a symbolic interactionist (Ralph et al., 2015). Constructivist GT's methodological underpinnings focus on how participants' build meaning in relation to the area of inquiry. Glaser, (1965) showed the fundamental process of grounded theory method portrayed as the constant comparative method where the analyst starts analysis with the first data collected and constantly compares indicators, concepts and categories as the theory appear (B. G. Glaser, 1965). Traditional, evolved and constructivist grounded theory genres use clarify terminology to explain each coding phase. Strauss and Corbin (1990) believed that systematic research design of grounded theory highlights the utilize of data analyzing stages through open coding, axial coding, and selective coding (Corbin & Strauss, 1990). Open Coding is an analytic process through which concepts are recognized and their properties and dimensions are found by implies of line-by-line examination of the data (Corbin & Strauss, 1990). By considering both structure and process, the followings will be evoked (Corbin & Strauss, 1990): Causal conditions, Intervening conditions, Contextual conditions, Actions/Interactions (Strategies), Consequences. Concepts will be organized under above five titles.

Selective coding is the final stage of the GT in which the theory will be refined and integrated. In this phase, the researcher decides on the central category that will represent the main theme of the research and then integrates all categories utilizing diverse methods such as charts or story telling memos(Corbin & Strauss, 1990).

Participants and interviews

Following the principal of purposive sampling (Chen, 2006), five participants were

interviewed in a pilot study and 50 participants were interviewed within the formal study. In the pilot study, valuable information was sorted out to improve the interview content and create a formal interview outline. One consideration was that the interview outline should cover the main scope of the research questions. Initial questions in the pilot study were as follows:

What are the dimensions of partnership quality in receiver-provider services outsourcing relations? What are the casual conditions, context conditions, intervening conditions, strategies, and consequences of partnership quality in services outsourcing?

Following the pilot study, a formal interview outline was formed. In this study, the research population was defined with the purpose of the description of Partnership quality of Isfahan Gas Company (IGC). Therefore, managers, authorities, engineers, and also the service providers were considered and a sample of them were interviewed. The sampling was accomplished theoretically. Theoretical sampling means that the researcher chooses forms of data collection that will resultant content and images valuable in creating a theory. This shows that the sampling is purposefulness and centered on the theory generation. In theoretical sampling, the events, and not necessarily individuals, are sampled and it proceed until the categories reach the theoretical saturation. Saturation in grounded theory research is a situation in which the researcher makes the subjective definition that new data will not provide any new information or insights for the developing categories (A. Strauss & Corbin, 1998).

The statistical population was comprised of all managers, experts and suppliers in IGC. The study sample consisted of 50 managers, experts, and suppliers, who were selected through purposive sampling. In the formal study, 50 participants consist of 30 services receiver and 20 services provider with 34 to 60 years of age, including 2 females and 48 males, were interviewed. The interviewees were from various academic levels. In-depth interviews lasting 20–35 minutes for each participant were conducted by one interviewer and were recorded with participants' consent. Following the standard procedure of grounded theory (A. Strauss & Corbin, 1990), interview data were then transformed into electronic text, which were analyzed and sorted, using MAXQDA 10. Finally, the third circular of interviews was done by exploring the relationship between categories and concepts and their more profound portrayal. For data reliability and explanations evaluation, the metrics utilized in qualitative research evaluation were applied. Hence, the reliability dimensions of qualitative research were proposed, including credibility, transferability, reliability and conformability (Flint, 1998).

To attain the mentioned metrics, the following ways were utilized:

- Prolonged engagement with participants: A 6 months interim for interviews and direct conduction of interviews.
- Member checking: giving a report of research results for those who participate in the interviews and getting feedback about researchers' interpretations.
- Peer review or debriefing: the review of industry and academic specialists.
- Thick, wealthy description: comprehensive description of the process, context, and research field.

Within the present research, the goal of this stage was accomplished through reviewing the researcher' technical memos gathered during the analysis and interviews.

Method of Analysis

All interview recordings were transcribed and analyzed mostly following the Glaserian GT approach (B. Glaser & Strauss, 1967). The accentuation was on remaining open-minded throughout the research process and avoiding forcing the data into a preconceived theoretical framework while maintaining theoretical sensitivity based on the researcher's developing knowledge (Gasson & Waters, 2013; Ng & Hase, 2008).

Open Coding

The codes derived from interviews with 50 professionals and experts of gas industry receiver provider services were extracted from open coding. The respondents addressed the description of Partnership quality services outsourcing in response to the related open questions of each of paradigm model dimensions and the primary codes were derived from the sentences and viewpoints of these people. In the next phase, the common codes emphasized by all interviewees, associated with important codes from the researchers' point of view were determined as the final codes.

Axial Coding

The next step of coding was the axial coding. Axial coding is the stage in which the categories from the open coding stage are refined with the help of coding paradigm, creating a unique communication among them. It is critical to note that the processes of open and axial coding overlap at several stages; as the researcher collects data, analyzes, generates codes and categories, and then plots against the coding paradigm (Creswell, 2009). The categories produced were organized in coding paradigm, utilizing the literature and going through the data (transcripts) once more and once more. According to Strauss and Corbin (A. Strauss & Corbin, 1998), coding paradigm consists of unique characteristics. These specifications were utilized as the establishment for producing a core-category in selective coding. This step serves to differentiate and strain concepts that are already available. The Strauss model has six paradigms of causal conditions, phenomenon, contextual conditions, intervening conditions, strategies, and consequences, which revolve around the paradigm of the main phenomenon (Mahdavi, Sheikh Al-Islami, Hasanmoradi, & Shokri, 2022). There are six categories of information:

- Causal Conditions – These are the situations that impact the central phenomenon, events, incidence and happenings.
- Phenomenon – The main idea or thought, occasion, occurring incidence on which a group of activities or teamwork are focused at managing or to which the group of movements is linked.
- Context – Explains the settings in which the events occurred
- Intervening Condition – These are conditions that find out, help or force the strategies that occur with (within) a context
- Strategies – Actions undertaken to accomplish, manage or respond to a phenomenon under the group of observed conditions
- Consequences – The outcomes as a result of action or interactions or outcomes as a result of applying strategies.

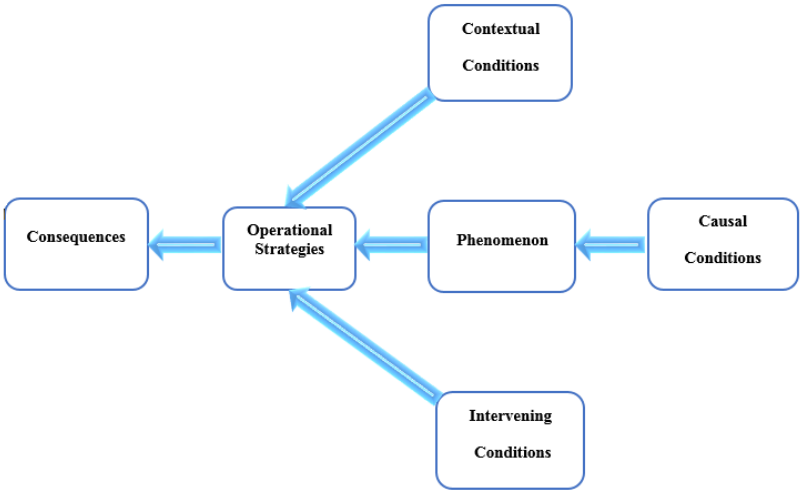

Figure 1. *Strauss and Carbin paradigm model (Cresswell, 2012)*

Selective Coding

The selective coding is the most important phase of theorizing within which the researcher relates the axial article to other items, explains their relationship, and modifies the categories which need improvement and review. In fact, the researcher tries to create a picture by establishing a relationship between categories, or in another word, by quoting a story. These steps are done in a reciprocating process; so the selective coding steps are not clearly distinct and are done by an interactive process in relation to open and axial coding. In summary, the data analysis procedure which leads to the creation of a theoretical model includes Causal conditions, Context, Core category, Intervening conditions, and Strategies and Consequences which describe the major phenomenon of "partnership quality". The Example of the three-phase coding process about partnership quality is depicted in Table 1 and the theoretical model according to paradigm model dimensions is depicted in Figure 1.

Table 1.
Example of the three-phase coding process about partnership quality.

Open codes			Axial codes	Selective codes
Example of quotes	Coding	Category		
"If there is a good deal of interaction between the contractor and the worker, in other words, partnership quality, we will get outsourced benefits".	The value of partnership quality	partnership quality	Core phenomena	The partnership quality is the main phenomenon. This phenomenon is influenced by the causative factors (commitment and trust), the contextual factors (interactions with other organs), and the intervening condition (transparent contracts and financing). Also, strategic actions like software and infrastructure affect it.
	The reason for partnership quality			
"In order to achieve this, the contracts must be transparent, and there should be mutual trust and commitment between the employer and the contractor."	Organizational factors			
	service providers features			
"The contractor must have good interaction with other organizations and must have sufficient financial and technical capacity."	Client features			
"There must be the necessary software infrastructure, and the organization must have the necessary financial resources"				

Research Findings and hypothesis development

Data analysis followed the guidelines of the grounded theory of Strauss and Corbin. First, after each interview, open coding was done through line-by-line coding. Codes were built in MAXQDA application. MAXQDA is a leading software package for qualitative research. It is one of the most extensive programs in the field and is used by many of researchers in more than 150 countries. MAXQDA Used for any type of qualitative research including but not limited to grounded theory, literature reviews, exploratory market research, qualitative text analysis, and mixed methods approaches.

Several meetings were conducted with all the authors until consensus was achieved.

The constant comparative method was used for data collection and analysis. The codebook was built alongside the interview sessions and was discussed regularly with all the authors. In this step, 300 codes were retrieved. Similar codes were merged resulting in 131 codes, which were then grouped into 18 categories based on their communalities.

For axial coding, we used the paradigm scheme, of which general building blocks to formulate a specific hypothesis were provided. These blocks are conditions, contextual conditions, intervening conditions, core phenomena, actions, and consequences.

Finally, we undertook selective coding, referring to the process of integration and refining the theory. During the process of integration, the relation of each category to other categories was discussed until the storyline was clearly defined. In this research, final extracted codes in the form of 131 concepts and 18 categories and 6 Section have been totally categorized.

Lincoln and Goba (1989) assessment methods have been used to ensure the validity and reliability of the study. As a result, an exploratory model for the research topic was formed based on grounded theory consisting of eight categories including causal factors (organizational, human and environmental), phenomenon explanation, contextual conditions, intervening conditions, operational strategies and consequences. The total number of statistical population in the quantitative section was 623 people. In the quantitative research section, in order to test the obtained pattern, the required data were collected by a designed questionnaire. Also, in this section, stratified sampling method was used to distribute the questionnaire and finally 247 questionnaires were collected.

Extracted model

Based on the above Research conducted, the Extracted model of the current research is drawn and listed in Figure 2.

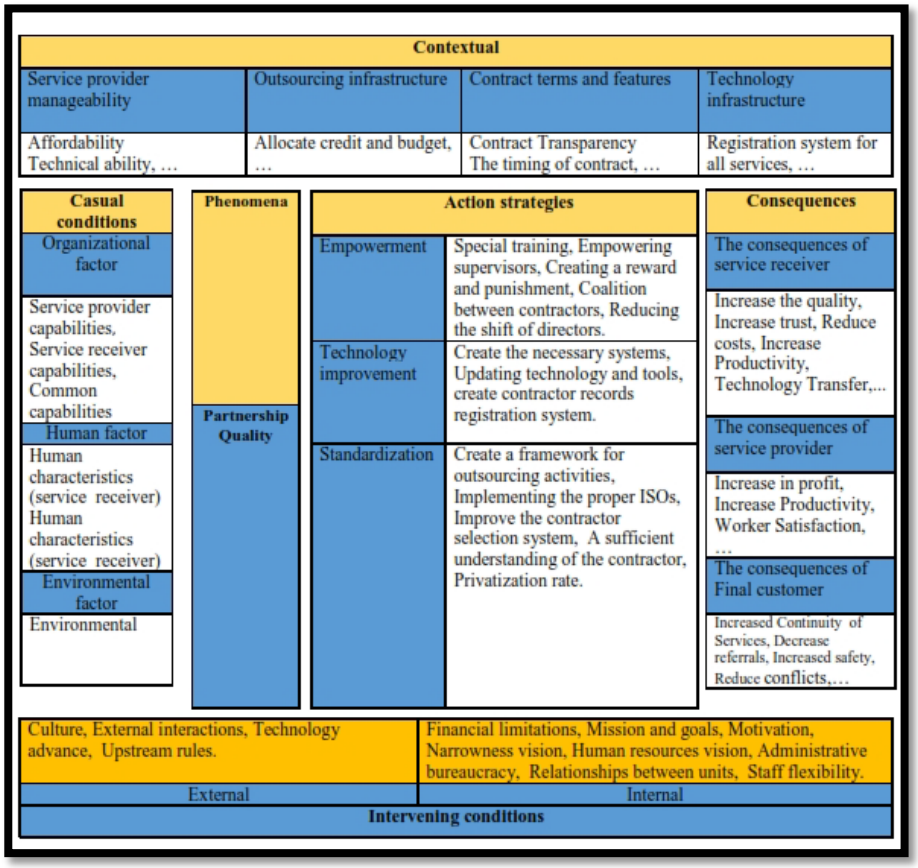

Figure 2. *Partnership Quality Model*

In total, partnership quality helps develop cooperative relationships based on causal conditions, context conditions, Intervening conditions, operational strategies, which are critical to the consequences of partnership quality, particularly in the context of government institutions. Figure 3 shows these relationships and the partnership quality model. From the proposed framework below, hypotheses were formed to examine the partnership quality model in services outsourcing.

H1: There is a positive relationship between causal conditions and partnership quality in services outsourcing.

H2: There is a positive relationship between organizational factors and partnership quality in services outsourcing. H3: There is a positive relationship between human factors and partnership quality in services outsourcing.

H4: There is a positive relationship between environmental factors and partnership quality in services outsourcing.

H5: There is a positive relationship between contextual conditions and partnership quality in services outsourcing.

H6: There is a positive relationship between intervening conditions and partnership quality in services outsourcing.

H7: There is a positive relationship between operational strategies and partnership quality in services outsourcing. H8: There is a positive relationship between partnership quality and consequences.

Results

To analyses the data collected, the partial least squares (PLS) method was used. PLS procedure is used to the data analysis, since it allows variables with either reflective or formative in nature and their existence in the higher-order factor structures (Chin, 1998). PLS places minimal restrictions on distributional characteristics and sample. PLS allows the calculation of composite reliabilities of reflective variables. Smart PLS was used to test the measurement model and the structural model.

Measurement model

Convergent validity

In the beginning, the convergent validity, was tested. Convergent validity, refers to the degree to which two measures of constructs that theoretically should be related, are in fact related. As suggested by Hair (2009), the factor loadings, composite reliability and average variance extracted were the indicators used to assess the convergent validity. The composite reliability values (see Table 2), which depict the degree to which the construct indicators indicate the latent construct, ranged from 0.743 to 0.912, which exceeded the recommended value of 0.7 (Hair, 2009). The average variance extracted, which reflects the overall amount of variance in the indicators accounted for by the latent construct, was in the range of 0.509 and 0.798, which exceeded the recommended value of 0.5 (Hair, 2009). Table 2 depicts the results of convergent validity.

Table 2.
Factor loadings convergent validity

	Items	Loadings (Standardized)	CR (Composite reliability)	AVE (Average variance extracted)	Chronbach x
Causal Conditions	ORF	0.813	0.828	0.775	0.713
	HUF	0.875	0.876	0.629	0.823
	ENF	0.643	0.831	0.573	0.787
Intervening Conditions	INT	0.665	0.773	0.617	0.798
	EXT	0.772	0.873	0.709	0.739

Contextual Conditions	INO	0.882	0.862	0.628	0.719
	TEC	0.827	0.743	0.647	0.901
	TSP	0.838	0.813	0.736	0.893
	TC	0.872	0.875	0.687	0.837
Operational Strategies	EMP	0.745	0.817	0.538	0.933
	TEI	0.880	0.843	0.675	0.903
	STN	0.810	0.801	0.538	0.833
Consequences	CSR	0.808	0.865	0.707	0.933
	CSP	0.836	0.873	0.619	0.857
	CFC	0.828	0.912	0.631	0.920

Discriminant validity

Discriminant validity can be inspected by comparing the squared correlations between the constructs and the variance extracted for a construct (Fornell & Larcker, 1981). Chong and Lee, (2010) xpressed that the validity of differentiation does not affect the measures of other factors and has been shown to have a low correlation between the rate of interest and the measurement of other constructs. As appeared in table 3, diagonal components are the square root of the AVE of the reflective Scales and the squared correlations for each construct were less than the square root of the average variance extracted by the indicators measuring that construct, demonstrating satisfactory discriminant validity. Overall, the model shows sufficient convergence validity and discrimination measurement.

Table 3.
Inter-construct correlation

-	ORF	HUF	ENF	INT	EXT	INO	TEC	TSP	TC	EMP	TEI	STN	CSR	CSP	CFC
ORF	0.981														
HUF	0.222	0.728													
ENF	0.141	0.173	0.683												
INT	0.353	0.250	0.101	0.732											
EXT	0.484	0.378	0.173	0.506	0.762										
INO	0.279	0.361	0.124	0.351	0.229	0.619									
TEC	0.147	0.418	0.035	0.298	0.345	0.246	0.706								
TSP	0.355	0.275	0.142	0.423	0.509	0.322	0.407	0.728							
TC	0.468	0.110	0.290	0.456	0.343	0.487	0.535	0.153	0.954						
EMP	0.135	0.294	0.108	0.292	0.265	0.358	0.334	0.349	0.053	0.728					
TEI	0.280	0.301	0.037	0.177	0.293	0.273	0.429	0.167	0.092	0.405	0.573				
STN	0.129	0.133	0.069	0.486	0.198	0.316	0.528	0.384	0.049	0.260	0.105	0.582			
CSR	0.394	0.221	0.185	0.132	0.143	0.074	0.272	0.249	0.047	0.355	0.376	0.179	0.983		
CSP	0.453	0.214	0.289	0.375	0.435	0.482	0.197	0.095	0.069	0.133	0.104	0.377	0.054	0.847	
CFC	0.521	0.543	0.155	0.289	0.401	0.321	0.139	0.176	0.121	0.219	0.238	0.364	0.129	0.564	0.948

Structural Model

The structural model shows the causal relationships among the constructs within the model (Sang, Lee, & Lee, 2010), which incorporate path coefficient estimates and R values, which determine the prescient power of the model. Due together, the variables R and path (loading and significance) can demonstrate how well the data support the hypothesis model (Chin, 1998; Sang et al., 2010). Table 4 and Fig. 3 show the results of the structural model from the PLS output. Causal conditions (β = 0.678, p \0.01), Organizational factors (β = 0.781, p \0.01), Human factors (β = 0.799, p \0.01), Intervening conditions (β = 0.312, p \0.05), Contextual conditions (β = 0.629, p \0.05), Operational strategies (β = 0.885, p \0.01),

Consequences (β = 0.916, p \0.01) were positively related to partnership quality, explaining 65.2 % of the variance, thus supporting H1, H2, H3, H5, H6, H7,H8 of this study. The Environmental factors (β = 0.121, p \0.05), was not a significant predictor of outsourcing, thus H4 was not supported. A closer examination revealed that human factors support was the key predictor of partnership quality, followed by organizational factors.

Table 4.
The Structural model

Path	Description	Hypothec	Path Coefficient	T value	Results
CC > PQ	Causal conditions	H1	0.678	3.888	Supported
OF > PQ	Organizational factors	H2	0.781	5.776	Supported
HF > PQ	Human factors	H3	0.799	5.003	Supported
EF > PQ	Environmental factors	H4	0.121	0.414	NOT Supported
INC > PQ	Intervening conditions	H5	0.312	3.010	Supported
COC > PQ	Contextual conditions	H6	0.629	4.512	Supported
OPS > PQ	Operational strategies	H7	0.885	5.373	Supported
PQ > CON	Consequences	H8	0.916	6.461	Supported
					P<=0. 01

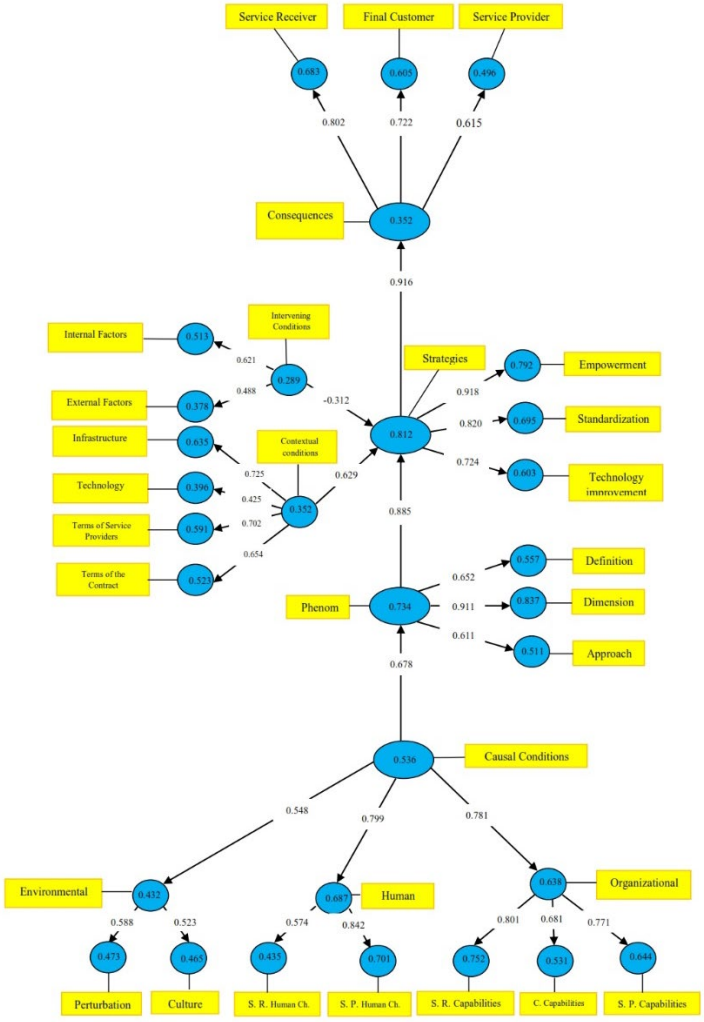

Figure 3. *Structural model*

Discussion

As mentioned in the introduction, this study aims to identify the determinants of characteristics as scaffolding structures to manage receiver-provider service outsourcing relations effectively. As shown in Table 4, six of the seven components of the model demonstrated a significant relationship with partnership quality and partnership quality has a significant relationship with consequences too. The results related to casual factors are consistent with the literature (Chou, Techatassanasoontorn, & Hung, 2015; Lee & Kim, 1999) confirming that partnership quality is affected by the organizational, human, and environmental factors and that trust, communication/ communication quality, and commitment are important relational elements in inter-organizational exchange. This demonstrates that organizational and human factors plays a critical role in the development of a long-term relationship and in facilitating an exchange relationship. Second, the results of context factors are compatible with the literature (Ali et al., 2017; de Carvalho et al., 2018; Qi & Chau, 2012) that both relationship and contract affect outsourcing consequences. Third, the results of intervening conditions are in compliance with the literature (Huo, Fu, Zhao, & Zhu, 2016) indicating that the intervening conditions affect outsourcing consequences. Fourth, the results of strategies and outcomes of partnership quality support the relationships proposed in the model for the factors that determine partnership quality or inter-organizational relationships with the literature (Ali et al., 2022; Ali et al., 2017; Espino-Rodríguez & Ramírez-Fierro, 2018; Liu et al., 2021; Newell et al., 2019). The most important operational strategies are, empowerment, standardization and technology improvement to achieve the partnership quality in outsourcing services. This study confirms that the strategic benefits improve outsourcing performance from a strategic point of view, which makes it possible to take advantage of the benefits of outsourcing perceived by IGC influence partnership quality. Similar results are obtained in the study by (Espino-Rodríguez & Ramírez-Fierro, 2018).

Conclusion

One of the most important challenges in contractual and organizational relationships in public administrations is the issue of relationships among partners with different working cultures, goals, rules, norms, and processes. Accordingly, in designing the conceptual model of partnership quality in services outsourcing relations for the IGS, a grounded theory is used in this research. The raw data collected from profound interviews with supply chain professionals were analyzed based on GT methodology. The two processes of data collection and data analysis were not conducted subsequently but simultaneously and in a zigzag manner which is in line with the true nature of a theoretical sampling. For the purpose of open coding, a line-by-line analysis of interviews was done. The axial codes were formed based on the identified open codes and the theoretical model was developed by means of selective coding. Finally, the professionals were asked to confirm the paradigmatic model. The approach applied in the resulted conceptual model is a process-based and multi-dimensional one because it examines the concept of partnership quality by taking in to account all the casual, background, and intervening conditions as well as the strategies and final outcomes.

Limitations and future research

Although this research uncovers information that will be useful in better understanding the dimensions of Partnership quality and outsourcing success, certain limitations exist. Firstly, because of the limited research conducted in IGC, the research had to focus on the findings and approaches used by other industries. Second, the sample size is small due to low response rate and time constraint. Reaching stronger results requires a larger sample size. Thirdly, more variables could be examined as an extension to this study. Other variables reflecting factors such as the

firm environment, corporate philosophy, culture and organizational practice could be included.

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