

A Grounded Theory Study: Representing a New Model to Exploring Transnational Capabilities for the Steel Pipe Manufacturing Companies Attaining Competitive Advantages

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ABSTRACT

Competitive advantages play a unique role in organizations' successes or failures because of customers' very speedy accessibility to suppliers and manufacturers. Indeed, this is competitive advantages which can make firms and organizations survive and grow in today's increasing competitive field attaining by creating and or improving their capabilities. The main goal of the study is to design a grounded theory model extracted from the transnational capabilities, but this required to explore the transnational capabilities aiming for the international markets entry. The statistical population of this qualitative research included experts and managers working in the steel pipe manufacturing companies of Iranian gas and oil industry. The data collected via interviews. The validity assured by counseling with the elites and university professors and the reliability verified by the Delphi technique. The findings revealed 496 open, 44 axial and 9 selective codes including: 1) Marketing, 2) Managerial, 3) Human Resources, 4) Financial, 5) Manufacturing, 6) Quality & Standards, 7) Research & Development 8) Logistics and 9) Interactions and counseling with the government. Finally, a new model extracted and represented from analysis of the axial coding process of the grounded theory. The model precisely clarified relationships among the components including casual conditions, context, actions/interactions (strategies), intervening conditions and consequences. Recognition of the relationships of the components will help better understanding of the capabilities. This will lead to attain the competitive advantages needed for successful entry into the international markets.

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1. Introduction

For almost 200 years, globalization has been seen as a positive development. Late twentieth century globalization became synonymous with the idea of a hyper-efficient networked world economy (Kobrin, 2020, p.280-281). Globalization has been hailed for promoting freedom and for removing barriers on goods and trade while aiding capital flows and international migration in the bid to create an integrated world economy (Yameogo and others, 2021). In particular, globalization has helped keep the world interrelated through global connectivity and networks. (Amadi, 2020). Whenever companies are contemplating internationalization, attention focuses on the resources and the capacities deemed necessary to undertaking substantial operations in global and competitive environments (Fernandes and others, 2020). To enter successfully into the international markets, firms need to create competitive advantages and to get this, they are required to create new capabilities and or improve their current ones. Competitive advantage is defined as “the relative superiority of the export venture’s value offering to customers in the target export market and the cost of delivering this realized value”, whereas capability can be considered as the “ability of an organization to perform a coordinated set of tasks, utilizing organizational resources, for the purpose of achieving a particular end result” (Ferreira and Coelho, 2019, p.5). Thus, the most important goal for firms to create and improve their capabilities is to achieve the competitive advantages because only having the competitive advantages would make their possible survival and growth in terms of difficulty level of competitiveness in the changing and turbulent environment of international markets. Iran's economy mainly depends on gas, oil and transit of gas and oil is a very important issue which is done by steel pipe lines. These pipes are produced by the companies which are at the center of attention of this research means pipe manufacturing companies in the gas and oil industry of Iran. These companies need to develop their markets for different reasons such as local competition and some limitations for executions of the internal projects. Thus, one of the most attractive and profitable options is to go for international markets and to do this, they must have competitive advantages. The competitive advantages obtain from strong capabilities. Therefore; the study aimed to fill the gap lack of studies on identifying and designing a model for the transnational capabilities focused on (gas and oil) steel pipe manufacturing

companies in the gas and oil industry for the international markets entry.

The starting section 1 of the paper allocated to the introduction as explained above. The next section 2 presents the literature review related to identification of the main constructs. Thereafter; in section 3, the research methods and measurement scales are given. The data analysis carried out using the grounded theory will be explained in the section 4 and the findings will be described in section 5. Consequently, the paper discusses the findings followed by the conclusions in the final section 6.

2. Literature review

Business firms strive to outperform their competitors to excel in the ever-changing market (Teece, 2014a). To get this goal, they are required to improve their current capabilities and or create new ones. One of the strategies which firms exploit to survive is to expand their markets in a wider range of their saturated local markets. Thus, they try to enter the international markets. To succeed in this area, they will need the advanced capabilities which called "Transnational Capabilities" in this article. The transnational capabilities defined as the capabilities required for a company's success beyond its country's borders. This means that qualitative and quantitative improvements of the capabilities play the most important role in firms' resistance against very strong forces of the fluctuating environment of competition. Therefore, firms must consider the interrelation between capabilities and competitive advantages especially if they target to go for internationalization. Capability can be considered as the “ability of an organization to perform a coordinated set of tasks, utilizing organizational resources, for the purpose of achieving a particular end result” (Helfat and Peteraf, 2003; cited by Ferreira and Coelho, 2019). Resources and capabilities are not strategic and fundamental unless they engender superior performance. The advantages achieved by the resources and capabilities depend not only on a company's ability to establish a competitive advantage, but also on how long the company can sustain that advantage (Grant, 2016).

Understanding how some enterprises build capabilities, grow, and create competitive advantage, leading to higher profits (and higher wages) above a perfectly competitive level, is an essential element for understanding capitalism and the modern economy. Indeed, as John Sutton of the London School of Economics states in his recent book competing in

Capabilities: ‘The proximate cause [of differences in the wealth of nations] lies, for the most part, in the capabilities of firms’. Capabilities arise in part from learning, from combining resources, and from exploiting complementary assets. Many capabilities become embedded in routines, and some reside with the top management team. Organizational capabilities can usefully be thought of as falling into one of two interconnected (but analytically separable) categories: ordinary capabilities and dynamic capabilities. Ordinary

capabilities are to a large extent operational whereas dynamic capabilities are generally strategic in nature (Teece, 2019, p.8). The implied model of capability development and deployment therefore looks like Figure 1—organizations accumulate experience that leads to the creation of capabilities, and those capabilities are deployed (implicitly through managerial choices) to generate organizational outcomes (Eggers and Kaplan, 2013).

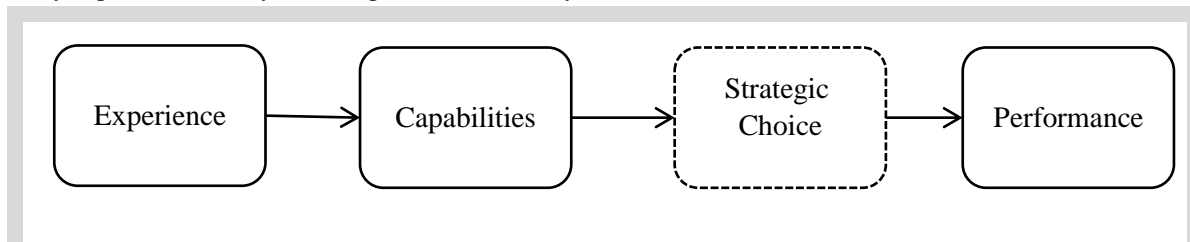


Figure 1. Capabilities and Performance (the Standard Model)

Source: Eggers and Kaplan, 2013

With regard to influential role of capabilities on firms' competitive advantages, some capabilities which were studied in many articles as firms' key capabilities defined as follows:

Organizational capabilities: Organizational capabilities defined as the firm's ability to manage its resources effectively, it highly involves making strategic decisions and effectively implements the strategic decision process to achieve the desired results (Nayeemunnisa and Gomathi, 2020).

Dynamic capabilities: Dynamic capabilities are part of a system that include resources and strategy. Together they determine the degree of competitive advantage an individual enterprise can gain over its rivals (Teece, 2018).

Innovation capability: innovation capability enables organizations apply requisite and appropriate technologies to develop new products, meet the market needs, and survive competitions (Yusheng and Ibrahim, 2020).

Marketing capabilities: Marketing researchers have conceptualized marketing capabilities in terms of a firm's ability to use available resources to perform marketing tasks in ways that achieve desired marketing outcomes (Morgan and others, 2018).

Managerial capabilities: The firm's skills, knowledge, and experience to deal with difficult and complex tasks in management and production (Choi and

Shepherd,2004) and the ability to choose activities for the production and delivery of products or services to customers in an efficient and effective manner (Collis,1994) comprise managerial capabilities (Srećković,2017).

Individual capabilities: Birdi and others (2016) defined individual capabilities as creativity-relevant skills, job expertise, operational skills, contextual knowledge, and motivation.

Technological capabilities: Technological capabilities can be understood as the skills and knowledge needed to use or operate existing technologies or production systems, or the ability to change or innovate technologies and production systems (Filho and Moori, 2018).

Thus, capabilities have been becoming very valuable factors for today's organizations because of their potentiality of creating competitive advantages. The issue competitive advantage will be explained as follows for its unique role in export and international markets entry.

Competitive advantage refers to the outcome of an organization developing attributes that allow it to outperform its competitors in a way that makes it difficult or impossible for competitors to imitate. It is defined as “the relative superiority of the export venture's value “offering to customers in the target export market and the cost of delivering this realized value” (Ferreira and Coelho, 2019). The organization can

gain a larger market share through competitive advantage. In the long run, organizations achieve a sustainable competitive advantage by developing key competencies and, in this way, provide better services to their target customers than their competitors. The important and significant aspect of “capability-based theory of competitive advantages” is that firms can create distinctive capabilities (robustness and resilience) by adopting systematic activities which allow them to achieve competitive advantage (Afraz, 2021). The resource-based and organizational capabilities views argue that firm-specific resources and capabilities result

in competitive advantage. If a firm has resources and capabilities, which are rare, difficult to imitate and substitute, it achieves competitive advantage (Srećković, 2017). An enduring competitive advantage in dynamic markets confirms the ability to obtain, integrate and reconfigure resources in ways that match the markets (Ferreira & Coelho, 2019). Hosseini and others (2018), in their article titled "Competitive Advantage and Its Impact on New Product Development Strategy", identified the following factors influencing the competitive advantage.

Table 1: Factors influencing the competitive advantage

No.	Factor
1	Quality
2	Quick and suitable service
3	Creation of commitment across the organization
4	Customer relation management
5	Customer’s loyalty
6	Product rate
7	Training the employees for enhancing their abilities
8	Mutual relation between marketing and R & D sections
9	Ability to hire competent employees
10	Entering new markets
11	High investment in innovation
12	Innovation in distribution

Source: Hosseini and others (2018)

To do the research, many articles studied in terms of capabilities and impact of their roles for making success from the perspective of the firms' competitive

advantages. Therefore, some of the most important widely attentive capabilities mentioned briefly in the following table 2 as follow:

Table 2: Capabilities studied for the literature review

No.	Capability	Reference
1	Dynamic	Teece (2018), Martin and Bacrach (2018)
2	Individual	Mudalige and others (2019), Cohen (2016), Birdi and others (2016)
3	Innovation	Yusheng and Ibrahim (2020), Sumrin and others (2020), Ferreira and others (2019)
4	Managerial	Haapanen and others (2020), Srećković (2017), Helfat and Peteraf (2015)
5	Marketing	Morgan and others (2018), Zimmermann and Blythe (2013)
6	Organizational	Naemunnisa and Gomathi (2020), Wang and Zeng (2017)
7	Technological	Filho and Moori (2018), Guerra and Camargo (2016)

Source: Findings of the study

Although many works have been done in different capabilities like marketing, managerial, financial and so like capabilities mentioned in our research background, but no serious works or models presented so far specially in the field of the international markets entry by exploring transnational capabilities for pipe

manufacturing companies in the oil industry of Iran mainly for the purpose of export improvement as one of the most effective factors of the economic growth. In the next section, the methodology will be explained.



3. Research methods

Scientific researches generally divided into two popular sections called qualitative and quantitative researches. The current study done on a qualitative basis. Qualitative research focuses on developing a deeper understanding of complex phenomena that can be difficult to measure empirically (Johnson and Waterfield, 2004 cited by Walsh and others, 2020).

The research population includes top managers especially business, marketing, and sales and procurement managers of steel pipe manufacturing companies in the Iranian gas and oil industry and also experts working in the transit (gas and oil) steel pipe manufacturing industry. The selected sampling method was non-probability judgmental regarding sensitivities of title and type of the research and the sample size determined according to the researchers' experiences and

Table 3: The interview questions

No.	Questions
1	What are needs of the country's pipe manufacturing companies?
2	What specific capabilities should the transit (gas and pipe) pipe manufacturing companies have to be able to enter the international markets?
3	What are conditions of export in international markets for the transit (gas and pipe) pipe manufacturers?
4	What are the customers' needs and requirements in the international markets?
5	What factors will influence the transit (gas and oil) pipe manufacturers for international markets entry in terms of motivations and intensives?
6	What factors will influence the transit (gas and oil) pipe manufacturers for international markets entry in terms of facilitations?
7	How can the transit (gas and pipe) pipe Iranian manufacturers increase their market shares in international markets?
8	How can the transit (gas and pipe) pipe Iranian manufacturers increase their competitive strengths in international markets comparing the competitors?
*	Finally, please mention any noticeable statements if you feel untold.

Source: Findings of the study

Step 2: Interview: It was a semi-structured interview. Interviewees contributed in the interview were 17 experts including business, sales, marketing and procurement managers working in 8 transit pipe manufacturing companies in the gas and oil industry of Iran. The companies nearly produced total pipes needed for the gas and oil transit of the country. The selected respondents were at least 35 years having at least 10 years of related work experiences of the industry with MA¹ degrees mainly in management. The interviews continued up to theoretical saturation. The Theoretical saturation occurs when the emergent categories are

counseling with industrial experts up to the theoretical saturation. The data collection applied by the interviews.

Types of interviews: interviews including different styles (structured, semi-structured and unstructured). The type semi-structured interview selected for the research because of the interviewees' experiences and freedom of speech.

Practical steps for implementation of the study (conducting Grounded Theory Research):

Step 1: Formulating the interview questions: In qualitative research it is important to investigate questions involving the intentions and purposes of people, the "Why?", "How?" and "What kind?" are important, when looking at social science phenomena, not just "How much?" (Croply, 2019). Accordingly; the interview questions listed in the following table 3.

determined to be well conceptual depth developed (Corbin and Strauss, 2015), achieving what Nelson (2017) termed and indicating that no new categorical dimensions or properties are emerging (Holton, 2007 cited by Bowers and Creamer, 2020).

Step 3: Data Analysis of the study by the grounded theory method including the three-stage (open, axial and selective) coding process aiming exploration of the transnational capabilities. Step three includes three stages.

¹ Master of Art

The first stage -open coding- open coding allows reduction of data into concise manageable themes that accurately reflect the phenomenon. Therefore; in this first stage, a phrase (not a complete sentence) usually is written for each point stated by an interviewee (Muratovski, 2016 cited by Thurlow, 2020). This stage will be exemplified in the next section, data analysis.

The second stage -axial coding- axial coding involves reassembling large amounts of open coded data into more abstract conceptual categories. The purpose of this analytic phase is to consider and develop relationships between working categories and subcategories, in order to capture both general properties of a phenomenon and dimensional variation (Scott and Medaugh, 2017). Therefore; in this stage, types of open codes with closely similar contents will be categorized in the same group called the axial code. These codes may come from different interviews, but in the same category. This stage will be exemplified in the next section (Thurlow, 2020).

The third stage -selective coding- the selective coding stage involves the bringing together of categories and connections, their development into a storyline to describe the mechanics of the issue. According to Muratovski (2016), this is the point where theory can be developed. (Thurlow, 2020). In this stage, types of the axial codes with closely similar contents will be put in the same category. Indeed, the selective codes use results of the previous stages and create the key categories which are the final expected variables of the study by selecting the best fitted axial codes in the same baskets. This stage will be exemplified in the next section as well.

Step 4: representing a Grounded theory model (Paradigm):

Glaser and Strauss (1967) first introduced Grounded Theory (GT²). It “relies on the absence of an existing theory and its purpose is to set up a new theory,” (Muratovski, 2016, cited by Thurlow, 2020). “Most hypotheses and concepts not only come from the data, but are systematically worked out in relation to the data during the course of the research” (Glaser and Strauss, 1967, p.6; cited by Thurlow, 2020, p.2). Grounded theory further provides a particular set of systematic methods, which support abstraction from the data in order to develop a theory that is grounded in the empirical data (Vollstedt and Rezat, 2019). The axial coding framework includes causal and intervening micro- and macro structural, sociopolitical attributes of

the context, actions, or interactional strategies used to manage the phenomenon, and resulting consequences of interactions and actions taken. Axial coding represents a coding paradigm grounded in pragmatist and interactionism traditions of social theory, which emphasize human action and social interaction (Scott and Medaugh, 2017).

Paradigm: An analytic strategy for integrating structure with process. As explained above, the conceptual GT Model (paradigm) of the article includes the following components:

Casual conditions: These form the main phenomenon or the core category. The casual conditions are sets of categories and their features influencing the core (central) phenomena. The casual conditions of the study mentioned in the figure.2.

Core phenomenon: it is the central (core) category selected by the researcher which is at the center of attention of the study. The relationship of other categories determined by the core phenomenon. The core phenomenon of the study is transnational capabilities for Pipe Manufacturers in Oil industry of Iran for the international markets entry.

Actions-interactional strategies: These are the responses made by individuals or groups to situations, problems, happenings, and events (Strauss and Corbin, 2008, p.88). The strategies of the research mentioned in the figure.2.

Context: Structural conditions that shape the nature of situations, circumstances, or problems to which individuals respond by means of action/interaction/emotions. Contextual conditions range from the most macro to the micro (Strauss and Corbin, 2008, p.87). The context of the study mentioned in the figure.2.

Intervening conditions: The intervening conditions consist of a set of mediating variables. The intervening conditions of the study mentioned in the figure 2.

Consequences: These are outcomes of inter/actions or of emotional responses to events. Consequences answer the questions about what happened as a result of those inter/actions or emotional responses. (Strauss and Corbin, 2008, p.88). The consequences mentioned in the figure 2.



After all; a new grounded theory model extracted from analysis of the explored axial codes of the study will be shown in figure 2. The figure will beautifully describe relationships among components of the model.

Validity: The research validity achieved by sending the results of the research for the interviewees and applying their point of views. Finally the research studied by the supervisors and some items amended.

Reliability: the Delphi's technique used for improvement of the research reliability. As a matter of fact, the confirmation or adjustments of the research components and concepts resulted from analysis of the interviews gained by the Delphi's technique and the dominant experts' knowledge and experiences. In the next section, the data analysis will be explained.

4. Data analysis

After formulating the interview questions, the questions answered by the respondents and details of their verbal comments were written down. Then, the written interviews referred to the experts again for the purpose of additional comments in terms of comprehensive understanding of the issue. Next, the

Table 4: Points expressed in the interview No.4

Code indicator	The points mentioned in the interview No.4 (X ₄)
P ₁	The first usual challenge regarding needs of pipe manufacturing industry is the human resources challenges which include getting old, lack of motivation and qualification.
P ₂	The second challenge regarding need of pipe manufacturing industry includes technology and equipment challenges such as depreciation of the country's oil and gas manufacturing industry and also oil extraction and exploitation sections.
P ₃	In recent years, the overhaul planning disregarded mainly for lack of spare parts and financial limitations.
P ₃₉	To be supported by the government is the first step to enter the international markets.
P ₄₀	Drawing attention toward the competitors is an important factor because they are advancing in terms of technology, communications and business affairs.
P ₄₁	A key point which helps you to have a competitive product is to reduce manufacturing costs. This means very low prices of the products to be able to compete with the competitors. In fact, the total cost of the industry must be reduced.

Source: Findings of the study

The open coding: This is the first stage of the coding process as explained in the research method section. The

three-stage coding process (open, axial and selective coding) of the grounded theory applied for the data analysis as before defined. The data analysis for one code described as follows as a practical example. Indicators of the codes for a better understanding will be explained before saying about the practical example.

The indicator "X" refers to the "interviewee" and the "number inserted in front of it" means the "interview number". For example; X₄ means the interviewee number 4.

The indicator "P" abbreviated for the word "POINT" and the "number inserted in front of it" means the "point number of the interview ". For example; P₄₀ means the point number 40.

X₄ P₄₀ means the point number 40 expressed by the interviewee number 4.

Selecting the points: after writing down each interview comments, the points of each one listed in a table like the following table 4. This is the stage before the coding process. The points of the interview number 4 presented as a practical example as follows.

following table 5 is an example for the open coding of the table No.4.

Table 5: The open coding

The point stated by interviewee No.4 (X ₄)	The defined open code	Indicator of the open code
Drawing attention toward the competitors is an important factor because they are advancing in terms of technology, communications and business affairs.	The need for monitoring the international competitors	X ₄ P ₄₀

Source: Findings of the study

The axial coding: This is the second stage of the coding process as explained in the research method section. The following table 6 is an example for the axial coding of the table 5 which has been added by other open codes from different interviews as well.

Table 6: The axial coding

The defined axial code	The defined open codes fitting with the interviewees' points	Indicators of the open codes
The need for watching the competitors	Saturation of the region's target markets by the competitors	X ₁ P ₂₄
	Necessity for cooperation and unity with the competitors	X ₃ P ₇
	Using the competitors' experiences	X ₃ P ₉
	Cooperation with the domestic competitors meeting the export barriers	X ₃ P ₂₈
	The need for monitoring the international competitors	X ₄ P ₄₀
	The need for watching the competitors' products	X ₇ P ₁₈
	Necessity for knowing competitors and their products in details	X ₈ P ₄
	The need for attentively monitoring quality of the competitive products	X ₁₀ P ₁₈
	The necessity for improving quality of the products regarding the current competition of the markets	X ₁₁ P ₁₉
	The need for competitors' assessment before entering the international markets	X ₁₃ P ₇
	The necessity for knowing competitors in markets of the target countries	X ₁₃ P ₈
	The need for knowing competitors in terms of determinant factors of competitive advantage	X ₁₃ P ₂₀
	Making better the competitive power by improving quality of the products	X ₁₄ P ₃₂
	The need for knowing competitors' different dimensions	X ₁₆ P ₂₅
The need for knowing competitors' strengths	X ₁₇ P ₁₉	

Source: Findings of the study

The selective coding: This is the third stage and the last one of the coding process. The following table 7 is an example for the selective coding of the table 6 which included by other axial codes resulting from different interviews as well.

Table 7: The selective coding

The selective code	The axial codes	No. of the open codes
Marketing capabilities	Local & foreign demand management for gas and oil pipes	5
	Market development	5
	Brand equity	7
	Scientific and professional approach to marketing	16
	After sales services	6



	The need for watching the competitors	15
	The need for monitoring the customers' needs	36
	The necessity for knowing the customers' characteristics and situations	4
	The necessity for recognition of the target markets	19
	Using services of professional brokerages in markets of the target countries	2
	Marketing Information System (MIS)	8
	Product offerings	3
	Cost Leading Pricing	7
	Ability to win a project contract	11
	Optimizing the export facilities	12

Source: Findings of the study

In the next section, the findings of the study will be described.

All the capabilities explored from the study along with their sub-codes presented in the table 8.

5. Findings

5.1. Results related to the identifying the transnational capabilities

Table 8: Capabilities resulted from the research

No.	The selective code	The axial codes	No. of the open codes
1	Marketing capabilities	Local & foreign demand management for gas & oil pipes	5
		Market development	5
		Brand equity	7
		Scientific and professional approach to marketing	16
		After sales services	6
		The need for watching the competitors	15
		The need for monitoring the customers' needs	36
		The necessity for knowing the customers' characteristics and situations	4
		The necessity for recognition & features of the target markets	19
		Using services of professional brokerages in markets of the target countries	2
		Marketing Information System (M.I.S)	8
		Product offerings	3
		Cost Leading Pricing strategy	7
		To be powerful and reliable enough to conclude an international contract	11
Optimizing the export potentials	12		
2	Managerial capabilities	The need for export strategic planning	35
		Developing managers' communicative skills	12
		Integrated management in the piping industry	2
		Top management's positive attitude toward export	23
		Top management stability	2

		External risk management	9
		Organizational structure reform	9
		Role of influential legal stakeholders for export	2
		Coordination between Human Resources (HR) strategies and organizational strategies	3
3	Human Resources capabilities	The necessity for paying much attention to the HR	15
		Using a suitable system for recruitment	4
		HR training and development	6
		Knowledge management database	4
4	Financial capabilities	The need for reducing the total price of the products	14
		Financing	18
5	Production capabilities	Using the modern technologies in production processes	14
		Importance of nominal capacity in production	10
6	Standards and Quality capabilities	API standard	21
		Quality management of raw material and products	17
		Importance of standards in the industry	9
7	Research and Development capabilities	Importance of Research & Development	4
		Upgrading technical knowledge industry	9
8	Logistics capabilities	Optimization of transportation systems	14
		Supply Chain Management	6
		Identifying suppliers for the raw material and spare parts	7
9	Capabilities for Interactions and counseling with the government	Counseling with the government in order for the export support happens.	30
		Counseling with the government in order for reforms of the export regulations happens.	9
		Counseling with the government to facilitate international barriers concerning financial transfers.	11
		Counseling with the government in order for finding good solutions to reduce the political barriers of the export.	21

Source: Findings of the study

5.2. Results related to representing the Grounded Theory Model (Paradigm)

The conceptual (paradigm) model which explained earlier in the section methodology presented as follows. In this model, the casual conditions mainly caused the main phenomenon. The main phenomenon leading to the actions / interactions (Strategies). Actions / interactions

(Strategies) are affected by the context and the intervening conditions. The main phenomenon affected by both the context and the intervening conditions as well and at the end the strategies leading to the consequences. The grounded theory model (paradigm) extracted from the findings of the study will be presented in the following figure 2.

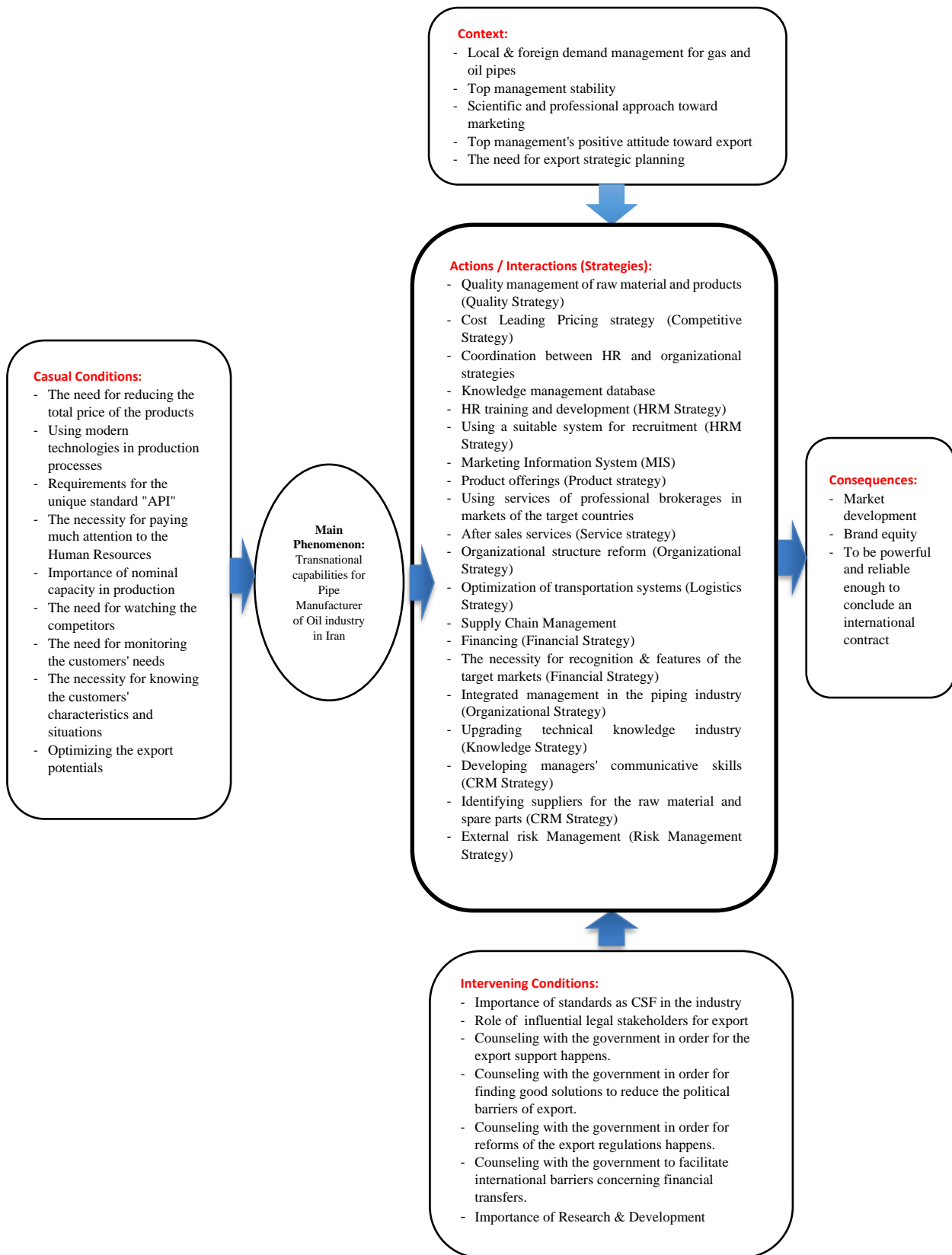


Figure 2: Grounded Theory Model (Paradigm) of the research extracted from findings of the study

6. Discussions and conclusions

With regard to the study and focus on the findings, the following practical guides will be mentioned after counseling the industrial experts and university professors. These guides divided into two sections as follows:

6.1. Guides for the transnational capabilities

-Establishing the marketing management department in the organizational structure of the pipe manufacturing companies.

-Upgrading the advertisement, pricing strategies and promotion programs aiming the customers' attraction and retainment by conducting a systematic and integrated strategy for the international markets entry.

-The assessment of the company position in the international markets and identifying the major customers particularly in the target countries.

-Identifying SWOT aiming the international market entry by determining modern methods and approaches to improve the weaknesses and threats related to export.

-The top management's noticeable attention on the knowledge management database focusing on detaining the technical knowledge and the staffs' empirical experiences.

-Making necessary reforms in the organizational structure focusing on the export and hiring experts and the professionals in the field of international trade and marketing.

-Meeting the previous outstanding debts focusing on funding new bank facilities for export.

-The financiers' assessment esp. international finance corporations focusing on creating strategic alliances for acquisition and implementation of the international projects.

-Striving great efforts on utilizing the modern technologies with the approach high quality production and agile delivery of the products to the competitive international markets.

-Drawing a specific attention on succession in the production sections with an international attitude.

-Paying attention to the technical and international standards on quality of the products.

-The need for replacing the alternative standards for the available limiting ones in the area export-oriented productions.

-Establishing an independent department for R & D and allocating a special budget for it.

-Utilizing the logistic facilities with the approach the international markets entry.

-Agility for making extensive and continuous interactions with the related ministries of the government to eradicate or reduce the export barriers.

-Making strategic alliances along with the major pipe manufacturers of the country convincing the government to support export financially and politically.

-It is strongly suggested to send the questionnaire to foreign experts of the international companies to know their ideas for the studies aiming to find the requirements needed for the Iranian companies for the international markets entry.

6.2. Guides for the grounded theory model (paradigm)

As presented in the table 2, many researches in other works have been done in different industries around the world using the grounded theory, but no studies found explaining reasons and consequences of investigating the transnational capabilities for the pipe manufacturing companies in the oil industry of Iran. Therefore, in order to fill this gap, this research aimed to present a model (Figure.2) in which relationships among the main phenomenon (the transnational capabilities for the pipe manufacturing companies in gas and oil industry of Iran for international markets entry) and other categories (e.g. casual conditions, context, intervening conditions, strategies and consequences) formed using the grounded theory. This model will lead the following achievements for the pipe manufacturing companies in gas and oil industry of Iran for international market entry:

-Paying much attention on scanning the local and transnational environments for demands and competitors.

-Getting to know with intervening factors of export and brilliant results of export and international projects

Finally, the study achieved 496 open, 44 axial and 9 selective codes using the 3-stage coding process of the grounded theory from 17 semi-structured interviews.



The selective codes, indeed, are the major variables of the research which means the transnational capabilities for the pipe manufacturing companies in the oil industry of Iran for the international markets entry. Based on the findings, the capabilities include the 1) Marketing, 2) Managerial, 3) Human Resources, 4) Financial, 5) Manufacturing, 6) Quality and Standards, 7) Research and Development 8) Logistics and 9) Interactions and counseling with the government. The comparisons between the capabilities of the literature (Table 2) and the capabilities resulted from the interviews (Table 8) showed differences as follows. Number of the capabilities of the literature was 7, but the capabilities resulted from the interviews were 9. The marketing and managerial capabilities were common in the both. There were 7 capabilities include Human Resources, Financial, Manufacturing, Quality and Standards, Research and Development, Logistics and Interactions and counseling with the government which found in the results of the research, but were not seen in the literature. In the contrary, there were 5 capabilities include Dynamic, Individual, Innovation, Organizational & Technological which found in the literature, but were not seen in the results of the research. After doing the coding process, a grounded theory designed from the axial codes. This model related 6 components of the model including casual conditions, main phenomenon, context, intervening conditions, strategies and consequences.

After attentively studying the findings, there are some limitations to mention in the pipe making industry in general and for the pipe manufacturing companies particularly in the oil industry especially if they decide to go for the international markets. First, these companies have very big physical spaces, high number of staff, depreciated equipment and machineries leading to very expensive costs for them. The second limitation is the lack of projects because the major customer of these companies is the government. As the government is being confronted with the international trade restrictions and COVID-19 pandemics, it is very hard to handle the national projects as it did before. The complementary point to this issue the accrued liabilities to the banking system. The companies could not manage to do the outstanding debts of the bank loans mainly because of recession, inflation, noticeable reduction in the value of the national currency and so on. Consequently, the banking system will not allocate any other bank services such as investment loans. All the above-mentioned considered very serious limitations for the pipe manufacturing companies in the oil industry to enter the international markets.

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