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Strategies for Managing and Organizing Construction Projects in China and Sweden.

*Master of Science Thesis in the Master's Programme Design and
Construction Project Management*

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Abstract

In this thesis, projects in Chinese and Swedish construction have been investigated at an organizational level to identify the strengths and weaknesses of them. Although the project procedure of both countries consists similar phases, there are differences in managing and organizing the projects, as the project organizations are influenced by culture, industry system and management practices. China and Sweden are two countries with different cultures, industry systems and organizations for the construction projects and the possibility of improvement have been confirmed with different issues on organizational level.

The research will focus on how projects are managed and organized and the aim of the thesis is to identify strengths and weaknesses of project on an organizational level of Chinese and Swedish construction projects. Considering project organization, project relationships and project communication, a series of strengths and weaknesses have been concluded. Strategies for building proper relationships, promoting communication as well as trust and engagement have been developed in China and Sweden.

Keywords: organization, relationships, communication, Chinese and Swedish construction projects, strategies.

Introduction

When it comes to international practice, there are differences between countries due to divergences of major factors such as culture, industrial system and practices, governance etc.

A project in the construction industry is special in that way that the organization's design of one unique project will last over a period of time. This places high demands on those involved, especially project management, to carry out an effective work to a high standard instantly without too many mistakes. It is important that communication between the actors working properly and that everyone knows their roles. As China and Sweden are two countries with different cultures, industry system and organizations for construction projects, this thesis will compare projects in Chinese and Swedish construction industry and look for strategies to solve problems raised on an organizational level.

For both countries, there are possibilities to achieve more efficient organizing of construction project. On one hand, Fang et al¹ listed main risks for contractors including mostly owner's unreasonable behaviors which may cause problems for contractors. Jin and Ling² identified a series of inherent risks because of shallow interdependence in construction phase, such as partner's distrust and misunderstanding, insufficient communication among partners. In addition, Liu et al³ pointed out the professional project management for construction, commonly known as Construction Supervision, have been accused and doubted by clients, designers and contractors. On the other hand, Josephson and Saukkoriipi⁴ indicated actors have different arguments for too complicated project organization etc. in Swedish construction projects. Bröchner et al.⁵ also argued on the difficulty to settle disputation on equality of two parties without the participation of a third independent party. In addition, Sunding and Odenrick⁶ indicated difficulty in coordination of actors with various background and interests as one of the characteristics in Swedish construction.

To have a profound insight into organizational issues, project relationships and communication are investigated as two vital factors to project organization. According to the IPMA Competence Baseline⁷ the project organization is the combination of people and related infrastructure declaring roles, relationships in line with the project processes. Clegg⁸ points out the organizations are of primary importance as communication entities. Moreover, Carlsson⁹ clarified in

order to achieve mutual trust and to formulate and achieve a common goal, communication is centrally important. As the purpose of project organization is to realize the project goal and achieve project success, Bourne¹⁰ illustrates the connection between relationships and communication among stakeholders which contributes to project success.

To be able to compare Chinese and Swedish organization of construction projects the following questions will be answered:

- How are construction projects organized in China and Sweden?
- How do the problems occur during the circumstance of each country?
- Could strategies for each country to organize a project be developed by comparing the project processes and project organization?

A literature review is first carried out to identify the research area. Later, information and data is collected by studying two projects each in China and Sweden and by using a questionnaire to dip into of practitioners' opinions in both countries.

Literature Review

Culture

To understand the behaviors which lead to variances in management performance, the national cultures have been studied and interpreted. Hofstede¹¹ suggests that culture divide people by shaping their mind and behavior, and people have to be known to be manageable. Five dimensions of culture have been classified by Hofstede¹¹ as Power Distance Index (PDI), Individualism (IDV) versus Collectivism, Masculinity (MAS) versus Femininity, Uncertainty Avoidance Index (UAI), Long Term Orientation (LTO) versus Short Term Orientation.

Scores has been put on different countries concerning the dimensions based on the collection of Hofstede's studies from international itim¹¹, China and Sweden, together with the world' average as a benchmark have been presented in Table 1:

	PDI	IDV	MAS	UAI	LTO
Sweden	31	71	5	29	33
China	80	20	66	30	118
The World	55	43	50	64	45

Table.1 International scores of Hofstede's culture dimension indexes (international itim 2011)

Compared to the world about all the indexes, China has increasing higher scores in MAS, PDI and LTO but lower ones in UAI and IDV decreasingly, while Sweden has relatively higher scores in IDV but lower in all other especially MAS, which indicate the Chinese culture is more collectivistic hierarchical in organization, masculine, long-term-oriented and, on the other hand, the Swedish culture is more individualistic, feminine, flat in organization and relatively not long-term-oriented. The interpretation of culture differences in accordance with Hofstede's culture dimensions are shown in table 2.

Chinese Culture	Swedish Culture
Collectivistic(low IDV)	Individualistic(high IDV)
Hierarchical in organization(high PDI)	Flat in organization (low PDI)
Assertive and competitive(high MAS)	Modest and caring(low MAS)
Valuing Long term goals and preserving	Valuing tradition and obligations

Table.2 Interpretation of Chinese and Swedish Culture by Hofstede^{11,12,13}

Governance & Industry Profiles in China and Sweden

The comprehensive law governing construction in Sweden is “Plan och Bygglagen” (PBL). Boverket is a Swedish administrative authority for matters concerning building. It is responsible for all the regulations for building and planning and also set a number of requirements that in more detail regulate the quality of what is built.

There are a number of other agencies that affect construction is performed in Sweden, such as The Authority for Working Conditions, Environmental Protection Agency and Authority for Civil Contingencies. These authorities make regulations that affect how the Swedish buildings are planned.

The Governmental process in Sweden is controlled by PBL. The detailed development plan process in Sweden contains Initial Planning Phase, Program Consultation, Plan Proposals, Plan Exhibition, Approval and finally it gains Legal Force^{14,15}.

In Sweden construction of buildings the project form is the most common way of organizing the process.¹⁵ The traditional project process for construction is divided in to four phases: Initial Planning Phase, the Phase for Principal Documents, the Phase for Main Documents and Constructions Phase¹⁶.

Since PBL was introduced in 1987 and Nybyggnadsregler (the building regulations) in 1988, much of the control has been transferred from municipalities to the individual. Each developer was instead forced to hire a quality manager who will control the participants self-monitoring to ensure quality and that laws and regulations are followed¹⁷.

There is no aligned process for project to organize in China, but the governmental website of Shanghai¹⁸ indicated the whole regulatory project process can be divided into three parts: land acquisition, design and construction along with a series of inspections. The owner enterprises are mainly responsible for acquiring the permits and inspection document. The only exception is that the housing administration is responsible for contact other disciplines (planning, environment et al.) for the land use permit.

According to Luo & Gale¹⁹ and Sha²⁰, the reform of the Chinese construction industry started 1978 with reform experiments carried out by the central government. The establishment of National Ministration of Construction is the milestone of the reformation with introduction of a few international business systems in construction industry.

The differences of governance and industry profile have been summarized in Table 3 to compare the systems in China and Sweden.

Systems	China	Sweden
Corporate organization system	Large projects have to been undertaken by regulated corporate organizations with competence in financing, planning and execution.	No regulation about organizations.
Tendering and bidding system	Project with public funding share have to follow the public bidding law with regard to basic project procedures such as survey, design and construction and supervision.	2004/18/EG (Swedish LOU) is controlling the tendering for governmental and municipal buildings.
Supervision system	The construction project has to been under supervision of accredited supervision companies who as a third party control the project objectives during the execution of the project.	Quality Manager is needed according to PBL. The Quality Manager controls that the involved have systems for controlling the quality (according to the Swedish regulations).
Contract management system	The contracts for different phases of the construction project have to be in accordance with the model version of the contract published by the construction law.	There are standard agreements that the construction industry developed through the Swedish Construction Federation. To control what should be included in the project AMA (labor and material instructions) is used as the basis for a description.

Table.3 Business systems in construction industry^{17,19}

Method

Research methods of construction project management and related fields have been examined. Chen and Partington²¹ established their comparison survey on pre-form proposition and confirm them with selected project manager from both China and UK. Lu and Yan²² summed up categories from literature and commit a quantitative questionnaire with practitioners within the construction industry. Harness²³ conducted her empirical study in human resource management and suggested the two-stage research could go with depictive to form the basic material for strategic planning and qualitative method to investigate the reasons behind strategies. Wood et al²⁴ carried out their multi-method empirical study using interviews with practitioner as an exploring method and applied wide-range questionnaire for key issues in a technology of software program development.

To identify problems and develop strategies, this result demands both depictive and investigative content. Remenyi et al²⁵ pointed out the open-ended interview enables the researcher to explore both the facts and the interviewee's perception. Siniscalco and Aduriat²⁶ interpreted the questionnaire as a data-collected tool to reflect the differences based on the responses of the same set questions and nominal coding system.

Structured interviews and quantitative questionnaires are adopted as two phases of the research which is designed to focus on an organizational level.

Interviews

The purpose of the interviews is to identify the divergence of project environments and practices and to collect information to support further study.

In total, four interviews were made in China and two interviews were made in Sweden. The interview is designed to be face to face and structured with grouped questions and breakdown of time for these question groups.

All interviewees were project managers from the owner, who are more likely to have life-cycle insights of the projects. The interviews were carried out at the places chosen by the interviewee, but mostly in their own offices. The availability to documents is a benefit and the communication genre is formal. According to their feedback, some questions are not specified enough.

Considering the different practices, a new set of questions for interviews in Sweden was adopted after the interviews in China.

Questionnaires

To complete the results a questionnaire study was made. In this way we could compare similarities and differences in general in China and Sweden. Questionnaire is standardized to generate comparable results for both countries. Three main resources are referred to compile the questions: collected interview notes, Project Evaluation Scheme from Andersen et al.²⁷ and research prepositions of project relationships by Jensen et al.²⁸ and strengths of organizational paradigm by Constantine L²⁹ and also interview notes. Questions are interrelated to contribute to the analysis and explanation. The questionnaire was done by an internet survey.

In order to collect opinions from all actors, the questionnaires were sent out to persons with different functions in the construction industry; owners, consultants, designers, contractors, project managers (Sweden), supervision engineers (China) and others. The target group are supposed to be practitioners with at least three years in construction industry, so questions about experience have been used to eliminate those with insufficient experience. The questionnaires had been distributed both systematically to acquaintances of contacts and randomly to strangers with their brief introduction.

In China 124 questionnaire were sent out by email and 40 valid answers have been received. So the response ratio is 32%. In Sweden the questionnaires were sent to 140 persons by email where 32 persons have followed the link to answer the questions, that is 23%. The roles involved in this survey are as following in the figure 2.

Roles	China	Sweden
Project Managers	-	40 %
Super Vision Engineers	14 %	-
Architects	10 %	9 %
Contractor	12 %	6 %
Consultant	27 %	9 %
Owner	32 %	30 %
Others	5 %	6 %

Table.4 The distribution between the different roles that answered the questionnaire in Sweden and China

There is a slight difference about the categories. The Chinese supervision engineer and Swedish project manager are put together. The supervision engineer is a title only in Chinese projects other than Swedish projects. And project manager in Swedish project plays a similar role as the supervision engineer by controlling and assuring the objectives of the project. The Chinese project managers are categorized into actors such as Owner, Contractor, and Consultant according to the practices though.

Findings

The cases

Case 1: The Technology Center Project (China)

The project is a government-financed public building as a technology center with construction period of 3 years and construction area of 36000 sqm. The project objective priorities are quality, time and cost

This project applies the project structure (Figure 1). The project manager represented the management consultant firm he belonged to, directly managing the other actors on behalf of the owners as a knot of project organization. In the process of project management, some interference had been caused by the function departments trying to manage sub-contractors ultra vires. This had been stopped by project manager, and with his coordination the project organization worked out efficiently.

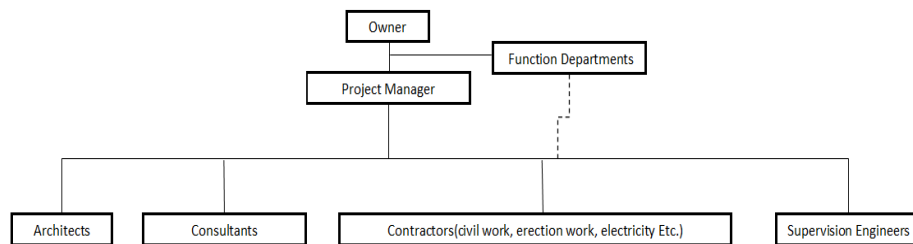


Figure 1: Organizational structure for Case 1.

The management consultant firm on behalf of the owner, make efforts to establish a common goal by pointing out that the project interests are above all else. It has been spread through the organization with communication and emphasis on project success.

Case 2: The Residential Project (China)

The second project is a residential project with construction area of around 240,000 sqm with the construction period of 16 months. The basic project process includes land acquisition, project planning, bidding and tendering, project implementation, completion and delivery.

According to the interviewee, project manager of this project, his role involves mainly three responsibilities that are to guarantee the project objectives

regarding scheduling, cost, safety and quality, to demand and arrange resources and to execute and coordinate the project.

The organizational structure for this project is matrix structure (See Figure 2). According to the project manager, the project organization has highly specialized professional competences and more centralized technical resources. While the participation of the directors from the function departments increase the level of difficulty for alignment of project management caused by double-lines management. The interface of management demands more coordination as well as definition of standards and orders.

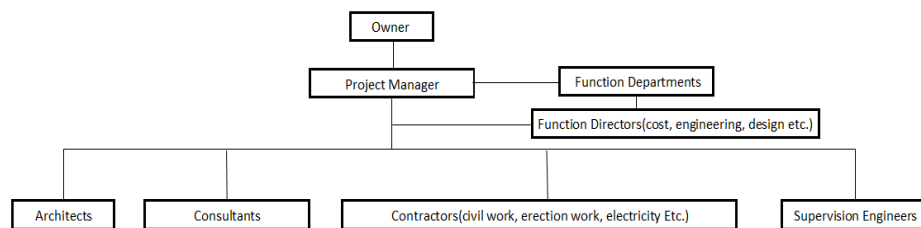


Figure 2: Organizational structure for Case 2.

Case 3: The Arena Project (Sweden)

This project is about an arena for “bandy” but also fairs, cultural events, tennis tournaments, dog exhibitions and much more. The total area is about 17 000 sqm and the project is full of complex structures and installations for the ice rink and the climate in the hall. From the start of designing until the arena was finished it went 13 months.

The Project Manager worked as a consultant for the owner during the whole process with the new arena from the early pre-design until the opening on the traditional bandy match on the day after Christmas Day.

Partnering was chosen for the contract with the construction company (Figure 3). Partnering could be a good way to be working if the project is complex or really big but it is important to get a relationship with the contractor based on trust.

A great effort was made to engage everybody in the project. Meetings to inform all involved were setup every week during the construction phase. Rewards were used instead of punishment at every level in the organization. This was probably a success since it made all people involved really engaged to do their very best to finish the project in time, within budget and with a good result!

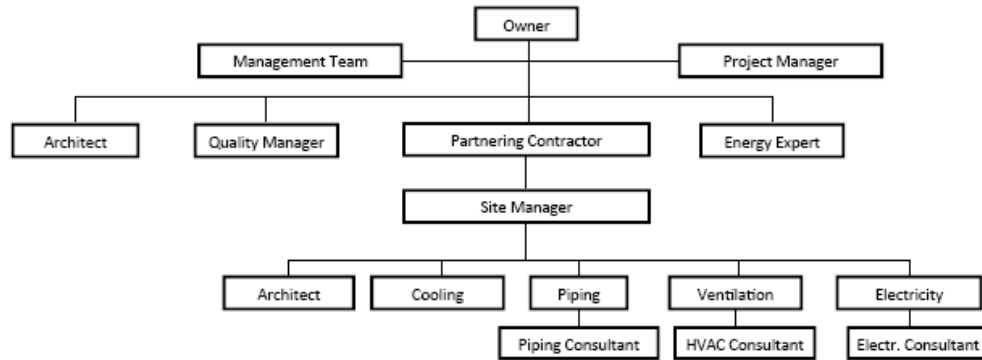


Figure 3: Organizational structure for Case 3

Case 4: The Residential Project (Sweden)

The interview for the residential project was made with a project manager at a Swedish contractor. The contractor has a subsidiary in the real estate business. The contractor buys land from the local authority to build residential buildings on. This residential building is such a project. Totally the project contains 500 flats on 40 000 sqm. From the start of designing until the project was finished it went 22 months for the largest house.

Except from the land purchase the contractor was involved in the detailed development plan work, the pre-design and the design and construction. The work with the detailed development plan takes in general about 3-5 years.

The organization for the project is a typical organization for a design and built contract (Figure 4). All information must be known by the project manager in order to keep control over the project to make the communication easier. During the design and construction phase there are scheduled meetings every 2 weeks. There is also an internet data base for exchanging information.

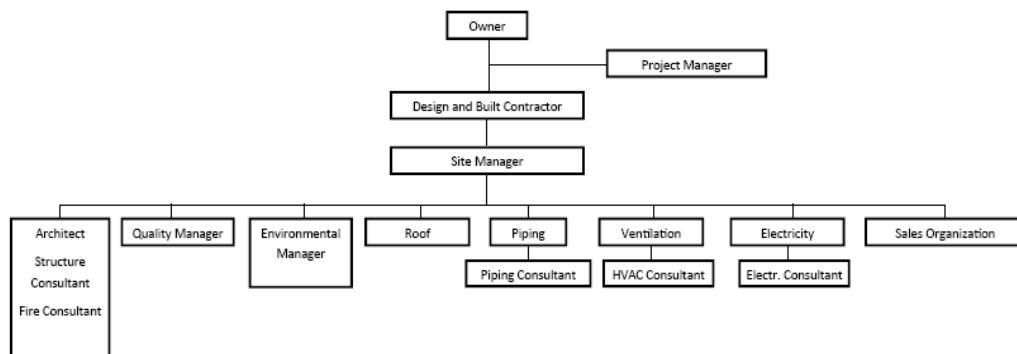


Figure 4: Organizational structure for Case 4

This way of working seems to work well for this kind of projects without any complex structures or systems.

Questionnaires

The purpose of the questionnaire study is to check in the defined area and explore the profound cause of organizational issues for both countries. The questionnaire is divided into three groups: A for project organization, B for project relationships and C for project communication. The questionnaire is built on PEVS from Andersen et al.²³, research prepositions of project relationships Jensen et al.²⁴ and strengths of organizational paradigm by Constantine L²⁵ and interview notes.

The responses of the questions have been calculated by multiplying the “Totally Agree” answer with 5, “Agree” with 4, “Neutral” with 3, “Disagree” with 2 and finally “Strongly disagree” with 1. The mean (M) of each question and the standard deviation (SD) are calculated and all the questions have been arranged in an increasing order according to the ranking (R) of its mean as it is shown the following table 5-7. One question from the B group has been deleted due to different interpretations during the translation process.

	China			Sweden		
	R	M	SD	R	M	SD
There is a formal organizational chart covering the entire project (A1)	11	4.28	0.64	11	4.38	0.83
The project has a clear responsibility chart showing the distribution of authority and responsibility for all involved in the project effort (A2)	3	3.65	1.08	9	4.03	1.05
In order to have efficient work relationships, it is sometimes necessary to bypass the hierarchical lines (A3)	8	3.88	0.61	3	3.72	0.92
All project personnel are motivated to participate in the project's given organizational set-up (A4)	9	3.95	0.88	7	3.90	0.83
The project is well described and the sub-projects and activities are co-ordinated (A5)	5	3.72	0.78	4	3.74	0.93
The project organization has no “holes” or “double work” regarding responsibility and authority (A6)	1	3.05	0.78	1	2.81	1.00
The project organization works well for the project plan (A7)	7	3.82	0.64	5	3.81	0.79
Project execution conforms to the agreed upon plan (A8)	6	3.72	0.78	6	3.81	1.03
Project personnel can, if desired, make informal contact beyond the formal organizational set-up (A9)	4	3.65	0.98	8	3.94	1.01
Project superiors (Top Management, Steering Committee, etc) are available to the key executors as necessary (A10)	10	4.25	0.54	10	4.16	0.78
All project actors can influence both decisions and responsibilities of the project (A11)	2	3.3	1.04	2	3.66	0.94

Table.5 The result from the questions about organization

	China			Sweden		
	R	M	SD	R	M	SD
The project has established its working mode through a well-planned kick-off meeting or similar event. (B1)	9	3.98	1.15	1	2.77	1.26
The key people in the project know each other well. (B2)	10	4.16	1.00	7	3.78	0.79
The project actors are willing to do even more than the responsibility in the contract if necessary. (B3)	2	3.47	0.95	2	3.50	1.05
The project actors have satisfied relationship with each other during the whole project. (B4)	7	3.88	0.81	9	3.94	0.62
The project actors are able to find a common goal and work for it. (B5)	6	3.88	0.72	10	4.13	0.75
All project actors have been given the opportunity to air their views on the project's goals and mission. (B6)	4	3.72	0.94	5	3.72	1.02
All project actors in the project can, if they want, participate in and influence all important decisions. (B7)	1	3.32	0.92	3	3.69	0.90
It is expected of sub-ordinates to make decisions within areas they are good at. (B8)	3	3.68	0.59	8	3.81	0.70
Problems and conflicts are solved by open discussion rather than adjudication. (B9)	8	3.90	0.68	6	3.78	0.71
There are trust between parts without agreements. (B10)	5	3.73	0.78	4	3.70	0.88

Table.6 The result from the questions about project relationships

	China			Sweden		
	R	M	SD	R	M	SD
The project goals regarding time schedule, budget, quality etc clearly stated and accepted by all project teams.(C1)	4	3.90	0.74	6	3.78	1.01
The project plans are understood and accepted by all project teams. (C2)	6	3.95	0.54	1	3.56	0.88
The project has well-established information and communications routines. (C3)	9	4.08	0.92	4	3.68	0.83
Project stakeholders are well informed on project progress. (C4)	8	4.00	0.87	2	3.61	0.84
Project actors have an open and efficient way of informing each other. (C5)	5	3.92	0.82	7	3.84	0.77
Informal communication in the project is functioning well. (C6)	3	3.78	0.88	8	3.84	0.78
Project meetings secure a good and efficient flow of information. (C7)	11	4.13	0.65	10	4.10	0.80
All key project information is gathered and distributed in an efficient manner. (C8)	1	3.58	0.82	3	3.63	0.94
The project executions have been discussed when large plan deviations occur or are suspected. (C9)	7	3.98	1.07	9	3.97	0.84
All the needs and desires of the end users are discussed with and agreed by the project's key executors. (C10)	2	3.67	1.09	5	3.73	0.91
The project's key executors get well informed of all important events. (C11)	10	4.13	0.81	11	4.34	0.75

Table.7 The result from the questions about communication

Data Analysis

In the analysis of questions, answers with a mean of either less than 3.5 or more than 4 have been highlighted. For those under 3.5, they have been classified as inadequate ones, indicating that something can be improved. The results over 4 are commonly agreed on. The means shows project staff's opinions of both Chinese projects (CPs) and Swedish projects (SPs) which reflect the satisfaction degree of various project staff on the past project

Project Organization

Among the A-questions A6 excelled while this claim was mostly disagreed with in both China and Sweden. Most agreed on were A1 and A10 for both countries. In Sweden A2 (4.03) were also highly agreed on while A2 (3.65) in China was quite disagreed on.

Although there are similar results, the question A2 "There is a formal chart of responsibilities.", however, indicates discrepancy in both countries. To look at project organization, both countries have the problem in situation of A6 which states as "The project organization has no "holes" or "double work" regarding responsibility and authority." even if there is a formal chart for responsibilities. An explanation based on this comparison is that the CPs has problem at the stage of description of responsibilities and authority and the SPs, has problem in implementing the distribution of authority and responsibility although they are clarified.

The power distance in cultures reflects in A11 "All project actors can influence both decisions and responsibilities of the project." It has been identified as an issue in the CPs with the mean of 3.3 but not in the SPs with 3.66. Neither of them has a mean over 4 which attributes to hierarchical endeavor of the project organizational structure of both practices and the high fragment of work units in organizational structure also could add difficulty to align opinions to achieve agreements.

Project Relationships

Among the B-questions B3 was quite disagreed with in both China and Sweden and most agreed on were B6 (4.13) in Sweden and B2 (4.16) in China. Also B1 (2.77) was disagreed on in Sweden and B8 (3.32) in China.

In question group of project relationships, the question B3, “The project actors are willing to do even more than the responsibility in the contract if necessary.” for both project contexts has a relatively low-mean answer-3.47 for China and 3.5 for Sweden. Those can be interpreted as a clue of lack of engagement in project efforts. Although the SP has a high mean in B6 “The project actors are able to find a common goal and work for it.” and the CP in B2 “The key people in the project know each other well.” which demonstrate both countries have involvement strategies, bottom-up for Sweden and top-down for China, efforts have to be made in other ways to promote engagement. B1, “The project has established its working mode through a well-planned kick-off meeting or similar event.” is a question for divergent answers. On the other hand, the Swedish project has a mean of 2.77 and in the meantime 3.98 for Chinese project. However, the kick-off activity for working is not a common case according to the SDs.

Project Communication

Among the C-questions the most agreed questions are C7 and C11 for both China and Sweden and two more-C3 and C4 for China. Among the C-questions C2 (3.56) -“The project plans are understood and accepted by all project teams.” in Sweden and C8(3.58)-“All key project information is gathered and distributed in an efficient manner.” in China were most disagreed with but even these questions had a quite high score (>3.5).

Both CPs and SPs have satisfactory means in C7 “Project meetings secure a good and efficient flow of information.” and C11 “The project’s key executers get well informed of all important events.” with low SD. Moreover, CPs have better result in C3 “The project has well-established information and communications routines.” and C4 “Project stakeholders are well informed on project progress.” On the contrary, means of SPs relatively lower in those questions. To say the least, though, CPs may have more report routines.

Summary of Analysis

According to the analysis of data, the strengths and weaknesses of Chinese projects CPs and SPs have been identified.

For CPs, one strength originates from the project control of the top concluded from B2, C3 and C4, all together produce well-established

communication system centralized by the stakeholders and key executors of the project. Another strength is from B1, the efforts of team building in regard to the project organization as a gathering of a series of multi-functional teams. On the contrary, there are not clear responsibility and authority crossing due to A2, A6 and interview, and lack of engagement and involvement according to A11, B3 and B8.

For SPs, the first strength is clear definition of authority and responsibility demonstrated by A2. Secondly, the involvement strategy with the common goal may promote motivation referring to B6. But still, the demarcated responsibilities of the project organization have to be communicated and understood shown by A6. It may become worse together with the inefficient and insufficient communication routines summed up from C2 C3 and C7. And lack of engagement from a relationship view identified by B1 and B3, may have important influence on the project according to the interviewee of case 3.

The strengths and weaknesses of CPs and SPs have been listed according of the analysis of questions across the categories in table 10 and table 11.

Strengths – China	Strengths - Sweden
Strong control of the project from the top management(C3, C4)	Clear definition of authority and responsibility (A2)
Team building efforts (B1)	Better involvement of teams with a common goal (B6)
Weaknesses – China	Weaknesses - Sweden
Less clear organization with divided authority and responsibility (A6 A2 interview)	Not clear understanding of responsibility chart (A6)
Lack of engagement and involvement of subordinate teams (A11, B8, B3)	Not good enough communication routines to implement organizational arrangements. (C2, C3, C7)
	Lack of engagement(B1, B3)

Table 10 Strengths and weaknesses in Chinese and Swedish construction.

Discussion and Conclusion

The causes of strengths and weakness originate from various sources, however, culture and industry system and practice are those of the main streams.

According to the result, the low PDI and MAS could contribute to the better involvement of project teams, but loose project control may cause problems of efficiency of regular routines and execution of arrangements. On the contrary, high PDI and MAS can enhance the project control of the top management but may harm the participation and involvement of subordinate groups. In addition high IDV and low LTO facilitate clear definition of work responsibility, but hinder the team building process vice versa.

Another source of the strong top-down project control of Chinese projects may derive from the supervision system, which to some degree adds the hierarchy of project structure as they are hired by the owner and supervise mainly on the contractors. Swedish projects are rather built on communication than relationships. So more efforts have been spent on documents and technologies to fulfill the group endeavor of the project work.

To find a common goal and work for it is central to project success and it is essential to have clearly defined organization proper relationships, well-established communication.

As China has been reforming the construction industry by developing and adapting business systems²⁰, it has to fit in with the characteristics and current situation of the industry. One of the strengths for Chinese projects is strong control from the owner but this could also cause problems for other actors if the owners are unreasonable in their behaviors. Less clear organization with divided authority and responsibility could be responsible for this, since ambiguity could be abused. Clearer definitions of roles could be a way of avoiding this situation. Rational expectation on relationship will simplify the ambiguity and holes of responsibility and avoid conflict e.g. to discuss openly about responsibilities, to view the Supervision as an agent of owner rather than a neutral actor.

In order to reach better appreciation great effort was put into these matters in the Swedish construction industry after the recession in the 90:s¹⁶ but there is still much to be done. To enhance the leadership in project of the project manager will simplify the organizational process and facilitate the alignment of project goal. To begin with, the Project Manager shall know about all information that flows in the projects, like in the Swedish residential project,

could be one way to simplify the communication. Another way is to have open information channel like the regular meetings chaired by project management in the Arena Project.

Enhanced trust would contribute to improving project performance especially multi-cross disciplines, and a good relationship could be used to improve multi-disciplinary teamwork³⁰. Although trust is reached by making effort of good relations in China and finding a common goal to work for in Sweden, trust and engagement promoting is a necessity. Practically, this could be achieved by team building activities, like a kick-off meeting, and effective communication routines.

For the future it could be interesting to further look into deep solutions of problems or horizontally compare them with other countries or other project based businesses. Besides it could benefit co-operation studies between Chinese and Swedish construction industries.

Acknowledgement

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Appendix: Questionnaire Sample

Questionnaire for Project Organization Relationship and Communication of Chinese and Swedish constructions

This Questionnaire survey is conducted for academic purpose and the result will be shared among respondents if required.

Basic information:

Dear Participants, thank you for participating in our survey. Please think about the latest project you have done and base the answer on it.

What is the project and its type?(For confidential purpose, you could just type the initial letter of the key words, e.g. “The Big Apple Pie residential project” can be “The B.. A.. P.. residential project”)

Which party do you represent in the project?

The owner, consultant, architect, contractor and supervision(only for Chinese project) .

All the points below are single choice with answers of Strongly agreed/ agreed/ neutral/disagreed/strongly disagreed/no opinion.

Project Organization

- A1. There is a formal organizational chart covering the entire project.
- A2. In order to have efficient work relationship, it could sometimes be necessary to by hierarchical line in the organizational chart.
- A3. The project has a clear responsibility chart showing the distribution of authority and responsibility for all involved in the project effort.
- A4. All project personnel are motivated to participate in the project’s given organizational set-up.
- A5. The project is well described and sub-projects and activities co-ordinated well.
- A6. The project organization has no “holes” or “double work” regarding responsibility and authority.
- A7. The project organization works well for project plan.
- A8. Project execution conforms to the agreed upon plan.
- A9. Project personnel can, if desired, make informal contact beyond the formal organizational set-up.
- A10. Project superiors (Top Management, Steering Committee, etc) are available to the key executors.
- A11. All project actors can influence both decisions and responsibilities of the project.

Project Relationships

- B1. The project has established its working mode through a well-planned kick-off meeting or similar event.
- B2. The key people in the project know each other well.
- B3. The project actors are willing to do even more than the responsibility in the contract if necessary.
- B4. All project actors have their power to negotiate equally with each other.
- B5. The project actors have satisfied relationship with each other during the whole project.
- B6. The project actors are able to find a common goal and work for it.
- B7. All project actors have been given the opportunity to air their views on the project's goals and mission.
- B8. All project actors in the project can participate in and influence all important decisions.
- B9. The subordinate teams in the organizational chart are expected to make decisions within the area they are good at.
- B10. Problems and conflicts in the project are solved by discussion rather than adjudication from another party.
- B11. There is trust between parties without agreements

Project Communication

- C1. The project goal regarding time, cost and quality is clearly stated and accepted by all project teams.
- C2. The project plans are understood and accepted by all project teams.
- C3. The project has well-established information and communications routines.
- C4. Project stakeholders are well informed on project progress.
- C5. Project actors have an open and efficient way of informing each other.
- C6. Informal communication in the project is functioning well.
- C7. Project meetings secure a good and efficient flow of information.
- C8. All key project information is gathered and distributed in an efficient manner.
- C9. The project executions have been discussed with project actors when large plan deviations occur or are suspected.
- C10. All the needs and desires of the end users are discussed with and agreed by the project's key executors.
- C11. The project's key executors get well informed of all important events

In your point of view was this a successful project regarding project goal time cost ?

Thank you again for your participating! If you would like to get the result, please leave your email address in the following box:

Signatures

Swedish Summary

Sammanfattning

I detta examensarbete har byggnadsprocesser och byggnadsorganisationer kartlagts och jämförts mellan kinesiska och svenska projekt för att identifiera styrkor och svagheter i både kinesiska och svenska organisationer.

Mycket är lika mellan de båda länderna men med bakgrund av skillnader i regler på stats- och kommunal nivå samt kulturella skillnader har skillnaderna i projekten jämförts. Arbetet har fokuserats på att hitta likheter och skillnader i hur man organiserar byggprojekt.

I arbetet har först en litteraturstudie gjort för att kunna identifiera problemområden samt att hitta bakgrundinformation till hur kinesiska och svenska byggprojekt fungerar organisatoriskt.

Vidare har intervjuer gjorts med projektledare i Kina och Sverige. Intervjuerna gjordes först i Kina för att kunna få så olika objekt som möjligt i Sverige.

Vidare har enkäter gjorts via frågeformulär på internet. Länkar till dessa frågeformulär har sänds ut via e-post till personer med olika roller i byggbranschen. Frågorna handlar om organisation, relationer mellan aktörer samt kommunikation.

Styrkor och svagheter är identifierade i kinesiska och svenska sätt att leda byggprojekt inom dessa områden. Vi har hittat många likheter men också punkter där det skiljer mellan kinesiskt och svenskt sätt att leda byggprojekt. Förhoppningsvis inspireras andra att titta djupare på dessa frågor.

Chinese Summary

中文摘要

为了探讨文化，行业背景及运作模式对项目组织和管理的影响，本文在中国和瑞典的项目管理组织比较研究的基础上，针对两国项目中组织结构，各方关系及沟通出现的问题，提出了一些对策。

本文首先回顾了文化及建筑行业的文献，通过对项目经理的访谈和各项目工作组人员问卷调查采集信息和数据，探索检验出一系列项目组织层面的问题。在对两国进行的研究结果的比较中，中国项目在项目控制和团队沟通建设中体现出优势，但在职责界定与项目下属团队的参与性方面显示出不足。原因可归结于两国文化因素，行业背景下项目实施体系及项目管理惯例的差异。中方问题的对策包括明确公开的责任划分和协商，客观的项目关系观和团队间信任度和参与感的提升。

研究结果可以为两国各自的项目组织管理改善提供参考，也可以增进两国建筑行业相互了解和合作。