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# **Strategic Purchasing of Manpower: The Necessity of a Workforce Pool for a Construction Company**

*Master's thesis in the Master's program Supply Chain Management*

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MASTER'S THESIS E 2018:081

# Strategic Purchasing of Manpower: The Necessity of a Workforce Pool for a Construction Company

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## Abstract

A case company in the construction industry, in this report referred to as Contractor Inc., is one of Sweden's largest main contractors. Contractor Inc. is, like other construction companies in Sweden, lacking both blue-collar workers and white-collar workers. To deal with the demand for additional workers, Contractor Inc.'s current strategy is to purchase manpower from subcontractors and staffing agencies. However, there are disadvantages with external personnel. For example, Contractor Inc. does not have full control over that the external workers follow security routines and the company-specific code of conduct. Likewise, Contractor Inc. does not have control over the delivered quality of the work carried out by external workers, so there might be additional costs to redo some work. Also, the price for the external workforce can consist of additional costs that have not been calculated in the budget of projects.

The issue regarding strategic purchasing of manpower at Contractor Inc. is investigated in this case study by conducting a literature review and interviews with internal employees at Contractor Inc. The findings show that the construction labour market is increasingly characterised of foreign workers from, for example, Eastern Europe. These blue-collar workers are often skilled in specialised areas within construction, and many of them are motivated to come to Sweden to work. Therefore, it is suggested to benefit from the available foreign workers, through an implementation of an internal workforce pool. The internal workforce pool is suggested to be an internal function at Contractor Inc., providing workers for all business units.

The findings from this study show that an internal workforce pool can consist of both blue-collar workers and white-collar workers, specialised in certain construction areas. An internal workforce pool at Contractor Inc. would result in greater flexibility when planning manpower, increased control over that the workers follow the security routines and code of conduct, enlarged control over the delivered quality on the projects, and there would be no hidden costs regarding the price of the workers. The workforce pool is suggested to start as a pilot project with concrete workers, and the proposed location is Poland. If the pilot project is successful, it is suggested that other blue-collar workers and white-collar workers can be obtained from the pool. Thus, this study will review the advantages and challenges with the commissioning of an internal workforce pool for Contractor Inc.

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## Terminology

<b>Blue-collar workers</b>	Educated and specialised construction workers. For example, craftsmen within different construction trades such as concrete workers, wood workers, steel workers and machinists.
<b>Centralisation</b>	An organisation is considered as centralised when important planning and decision-making powers are managed by the top management.
<b>Clients</b>	The customers of the case company, acting in the construction industry, are referred to as clients. The clients are often buyers of buildings, bridges, roads and ports.
<b>Decentralisation</b>	An organisation is considered as decentralised when important planning and decision-making powers are delegated at lower levels in the company.
<b>Staffing agency</b>	An organisation that lends personnel to other companies. In this case, blue-collar workers.
<b>Subcontractor</b>	Companies performing a limited part of the work for a main contractor.
<b>Team leader</b>	An employee leading the work at the construction site.
<b>White-collar workers</b>	A professional who produces services instead of products, conducting work within for example managerial positions, technical engineering, architecture and office work.

## Business units at Contractor Inc.

<b>Civil</b>	The business unit within infrastructure at Contractor Inc.
<b>Industrial Solutions</b>	The business unit within asphalt, concrete, and infrastructure at Contractor Inc.
<b>Large Projects</b>	This department belong to the business unit Civil at Contractor Inc., and includes large projects such as bridges.
<b>Purchasing</b>	The support function at Contractor Inc. that manage the organisation's purchasing.
<b>Residential</b>	The business unit at Contractor Inc. constructing buildings, as for example houses, shopping malls, and arenas.

# 1. Introduction

This chapter introduces the background of the study and describes the complexity when planning staffing of personnel to projects in the construction industry. In addition, the case company where the issues of strategic purchasing of manpower is investigated and the commissioning of an internal workforce pool is studied, will be introduced. The introductory chapter closes with a specification of the aim of the project, the research questions to be answered and a presentation of the limitations of the study.

## 1.1 Background

Strategic purchasing of manpower in project-based industries, like the construction industry, is difficult due to the limited period of time available to plan a workforce in advance (Phillips and Gully, 2009). The staffing planning process for construction companies is close in time to when a project should start and it is essential to have the right manpower, in the right place, at the right time for each project (Ekeskär and Rudberg, 2016; Cassidy and Kreitner, 2011).

Furthermore, main contractors in the construction industry are facing a fluctuating and unpredictable demand, since their production must be adapted to the specific clients' requirements, meaning that they are confronted with uncertainty about the amount of their future work and the utilisation of their resources (Hartmann and Caerteling, 2010; Mills, 2001; Gidado, 1996). According to Phillips and Gully (2009), the gaps between labour-demand and labour-supply must be addressed to be able to make a plan for the workforce. Sometimes the competencies required are not available internally, so the demanded competencies must be found externally.

Labour outsourcing can be done through for example subcontractors or staffing agencies (Van Weele, 2015). The increased globalisation has also led to that skilled employees have chosen to work away from their home country, which in turn has resulted in diversity in global workforce (Cillie-Schmidt, 2012). In addition to outsourcing personnel needs, companies can also use internal solutions. Since internal employees have the advantages of giving the organisation full control of the work to be carried out and full insight of costs, there are less risks with internal employees (Van Weele, 2015). According to Håkansson et al. (2013), an internal workforce pool can achieve flexibility to an organisation in terms of planning of manpower. Therefore, the commissioning of an internal workforce pool for a case company acting in the construction industry is investigated in this study. The workforce pool is suggested to be an internal business unit providing workers to the organisation's other business units. Further, the pool should facilitate the strategic purchasing of manpower process, by having internal employees prepared for work when needed to different cities.

Previous studies in the field of strategic purchasing of manpower in the construction industry is limited, partly due to that every construction company has its own unique projects (Dubois and Gadde, 2002; Gidado, 1996) and since the strategies of each organisation differ (Phillips and Gully, 2009). The construction sector is facing a lack of blue-collar workers, which is a barrier for the growth of the industry (Bennewitz, 2017), and thus, new modes of operation for strategic purchasing of manpower are essential to investigate.

## 1.2 The case company

To study the strategic purchasing of manpower, a case study of a large Swedish contractor was conducted, in this report referred to as Contractor Inc. The case company is active in three main

business areas: Residential, Civil, and Industrial Solutions, supported by diverse functions, such as Purchasing. This project is limited to the departments of Residential, Civil, Purchasing and Large Projects. The business categories Civil and Residential are divided into different regions, grouped by geographical locations and these regions are in turn grouped into districts. In this study, the regions Gothenburg and Stockholm are in focus. The Purchasing department at Contractor Inc. is a supportive function and Large Projects is a separate department for the largest construction projects.

Today, Contractor Inc. experiences difficulties in finding the right manpower within Sweden when planning personnel for projects. Therefore, Contractor Inc. is also searching abroad for subcontractors or personnel from staffing agencies. When employing foreign personnel, Contractor Inc. educates the incoming workers in Swedish and company-specific safety routines, values and how to work at a Contractor Inc. workplace in general. This is costly, especially if the workers choose to work for a competitor next time or if they do not understand the meaning of the education and disregard the instructions. Also, employing foreign blue-collar workers and white-collar workers has challenges to overcome, such as language barriers, diverse cultures and long geographical distances.

However, the lack of workers needs to be coped with, and new modes of operation regarding strategic purchasing of manpower require to be studied. Thus, this report will present the investigation of the necessity of an internal workforce pool consisting of employees hired by Contractor Inc., to keep competencies within the company, and to be sure that workers follow Contractor Inc.'s requirements and values. The internal workforce pool would appropriately be located in a European country where there is manpower available. Even though language barriers, diverse cultures and long geographical distances would still be challenges to overcome with foreign workers in an internal workforce pool, the workers would be educated in the Contractor Inc.'s specific modes of operation.

Moreover, Contractor Inc. is a value driven company and all employees working at Contractor Inc.'s projects should follow the values and safety routines, while keeping a social sustainable working environment, no matter if employed by Contractor Inc., a subcontractor, or a staffing agency. Contractor Inc. has four core values that describe the expected behaviours and actions of the employees which are anchored in the organisation's moral, beliefs and priorities. The values are about caring for the people working at Contractor Inc., and they can be translated into the four core values: working together, acting ethically in every situation, taking responsibility for the environment, and commitment to clients.

### 1.3 Aim

This project falls within the field of strategic purchasing of manpower. The aim of the project is to investigate a construction company's current strategy when planning its workforce, the necessity of a workforce pool and how an internal workforce pool could be structured. Pros and cons for a construction company using a workforce pool will also be examined and compared with purchasing of subcontractor and hiring through staffing agencies. Suggestions regarding the structure and how to manage an internal workforce pool for construction projects will be presented.

### 1.4 Research questions

This study will review the commissioning of an internal workforce pool at Contractor Inc. Consequently, the strategies for foreign labour currently in place will be investigated. To gain

knowledge regarding the necessity of a workforce pool at Contractor Inc., the demands of the organisation need to be analysed.

The following research questions will be answered to accomplish the aim of the project:

- How does the current strategy at Contractor Inc. look like when planning labour?
- What is the demand for an internal workforce pool when planning manpower for construction projects?
  - How can an internal workforce pool be structured?

### 1.5 Scope and limitations

This project is focused on the specific case of investigating the strategic purchasing of manpower at Contractor Inc. in Sweden. Moreover, the study is delimited to the specific regions in Gothenburg and Stockholm, and the business units Residential, Civil and the Purchasing Department. The investigation is limited to the larger cities Gothenburg and Stockholm since these regions have the largest demand of external manpower today, since there are many large projects performed at the same time in larger cities. This results in a lack of workers for Contractor Inc., and the available internal workers, subcontractors and personnel from staffing agencies are thereby limited. In addition, an internal workforce pool is assumed to work most effectively when there are high business activities overall in the construction industry, because it might be an issue what to do with the workers in a pool if the industry enters a recession.

An extended investigation of international manpower could be carried out covering Contractor Inc.'s strategy and demand of a workforce pool in all of its domestic countries and covering all of its business units. Furthermore, this report does not investigate legal or contractual issues, however, these matters were presented in a pre-study conducted last year by the case company, which confirmed that an internal workforce pool at Contractor Inc. would be possible from a legal and contractual point of view.

Strategic purchasing of personnel in the construction industry in general is complex, and every construction company has its own strategies and modes of operation. This means that even though some other construction companies have solutions with workforce pools, these solutions cannot be directly interpreted to fit Contractor Inc.'s demand and strategies. Moreover, the previous research in the field of internal workforce pools are limited, and the available information regarding other construction companies' workforce pools are not accessible due to confidentiality reasons.

## 2. Theoretical Framework

This chapter starts with a description of the project-based construction industry. Then, strategies in organisations and management of personnel to projects are presented. The chapter ends with an explanation of internal and external solutions regarding workforce.

### 2.1 The Construction Industry

Nordstrand (2008) explains the construction industry as an industry with organisations building residential or civil products, such as buildings, bridges, roads, and ports. Moreover, Ekeskär and Rudberg (2016) describe the construction industry as project based, with projects often producing large goods with several actors involved. Maylor (2010) explains projects as having aspects of uniqueness as well as being temporary and focused. Although similar projects have been carried out before, a project has some degree of novelty like place, task, time, or team carrying out the work. According to Nordstrand (2008), construction projects can be executed either as in-house projects for a main contractor or as a subcontractor, performing a section of work for another construction company. Behera et al. (2015) state that every construction project is performed for different clients. Therefore, every project is unique and includes for example main contractors, specialty subcontractors, material suppliers, architects, and engineers, that collaborate to build a project for a specific client.

The large goods are almost impossible to move, and consequently, the products are often produced on the site of use (Ekeskär and Rudberg, 2016). The spread and constantly changing production sites make the industry's supply chain complex and forces the actors to interact with each other and between projects. The challenging environment leads to higher costs and lower productivity in the construction industry compared to other manufacturing industries (Ekeskär and Rudberg, 2016), and the complexity of construction projects is continuously increasing (Dubois and Gadde, 2002). Additionally, Tonnquist (2012) describes project planning as another issue in the construction industry. Project planning in general is time consuming due to the complex industry, but is considered worth the time since a carefully planned project saves time in the execution process. Consequently, the largest part of the planning is done before the project starts, but also in the execution and developing phases since changes may happen during the project.

Sveriges Byggindustrier (2015) describes Sweden's construction and real estate market as a necessity for Sweden's growth and development. It enables residents, transports, and public services as well as constitute for a major part of the country's economic development. A construction project demands products and services from several other businesses, which stimulates the economy of the country. The construction industry has had a turn-over of 530 billion SEK the last few years, without including the worth of infrastructure such as airports, railways, roads, and harbours (Sveriges Byggindustrier, 2015).

Behera et al. (2015) explain that construction projects are complex since the projects involve large investments, engage various project participants and operate on stretched schedules. One of the most critical factors in construction operations is time, so the projects should be well-planned to avoid risks such as delays. If a construction project is behind in time schedule, the rate of progress can be improved by increasing staff, allow overtime or subcontract part of the work if possible. Similarly, Bennewitz (2017) states that there is a lack of blue-collar workers in Sweden, which is a barrier for the industry's growth.

The growing globalisation has led to a steadily increasing international construction market and additional construction projects overseas (Han et al., 2015). In addition, Cillie-Schmidt (2012)

state that skilled employees have increasingly chosen to work away from their home countries. Swedish construction companies are increasingly hiring foreign workers to their projects, as for example Eastern European blue-collar workers which often are chosen since they are skilled in what they do and willing to work abroad (Thörnqvist and Bernhardsson, 2015). The foreign workers hired by a main contractor are usually from subcontractors or staffing agencies, making it possible for construction companies to hire them without employing them internally (Svensson et al., 2015).

Cheng and Wu (2012) claim that subcontractors often provide a specific combination of staff, materials, equipment, and skills to perform specified work tasks. By contrast, Kantelius (2012) explains that personnel from staffing agencies are characterised as manpower, sometimes lacking demanded competencies since they are constantly changing workplace. Clearly, there are various strategies obtainable regarding managing of employees in the construction industry.

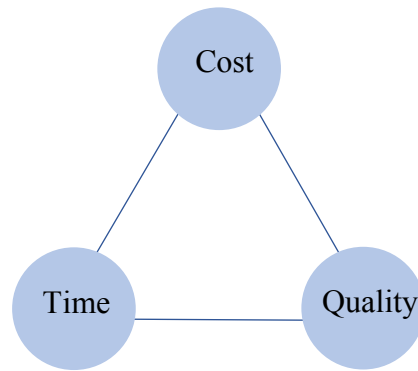
## 2.2 Strategies in organisations

When building the strategy of an organisation, it is important to focus the strategy on the areas where the organisation decides to be successful (Maylor, 2010). Clegg et al. (2016) explain an organisation's strategy as what differ the business from other businesses, such as what they are doing and what gives them competitive advantages. The strategy should involve a vision, which formulates and sets a clear plan including objectives and measurements for the future of an organisation. Then, the strategic plan should be explicit to the organisation's employees and to other stakeholders in order for the organisation to work in the same direction and being able to realise the vision. Furthermore, Clegg et al. (2016) explain that an organisation should constantly examine the environment where the company operates, to be able to respond to unforeseen events and in order to succeed. It is the strategic manager's responsibility to make sure that the organisation's changes are in line with the working environment, and manage the in-house employees and other stakeholders in new directions. Human resource managers help organisations to strive in the right direction by choosing who is employed, how to educate them, and how they are selected. However, a strategy to be followed and succeeded require the management to have control of the organisation (Clegg et al., 2016).

Moreover, Maylor (2010) explains that traditionally, the strategy was implemented from the top down in a company, but, this has changed and the strategy is nowadays implemented with input from all levels in the organisation. The new strategic approach results in a strong link between the strategy and the activities within the project. Additionally, the strategic approach requires inputs like current workload and capacities, reports on existing work, and how to develop new ideas from the entire organisation (Maylor, 2010).

An important part in businesses are the strategic choices to be made (Maylor, 2010). These choices should limit the focus of the organisation and consequently its aims. The simplest way to do this is by deciding if cost, time, or quality is the most important for the project, which is done by analysing the iron triangle, figure 1. For example, if the aim is to complete the project quickly, the company must be aware of that they must compromise on quality. Therefore, it is important for the company to be aware of this when prioritising the objective for the organisation.





**Fig. 1** Iron triangle (Maylor, 2010)

One issue with new business strategies is the resistance to change among employees. Behera et al. (2015) state that construction companies tend to be conservative regarding requirements to change, due to the risks when procuring projects. In a working environment characterised by complexity and competitiveness, organisations need to change constantly. Many employees experience resistance to change within their organisation, and it is often influenced by available information and previous experiences (Grama and Todericiu, 2016).

### 2.3 Management of personnel in projects

Hallin and Karrbom Gustavsson (2012) describe different scenarios of how to manage resources in terms of personnel participating in projects. When the activities in the projects are specified, it is essential to plan which employees will perform which activity. Various competencies are required for diverse operations and it is crucial to find out when, where and how much a specific competence is desired in the project. However, the resources of employees need to be provided from either the leading organisation of the project or from an external supplier (Hallin and Karrbom Gustavsson, 2012).

Cassidy and Kreitner (2011) state that human resource management comprise the purchasing, assessment, retention, and development of workers for organisations to be successful. The desired result from the human resource management is to have the right number of skilled workers in the right jobs at the right time. In well-managed organisations, human resources are today enclosed in the company strategy. Hallin and Karrbom Gustavsson (2012) explain that when combining working teams for projects, it is not always ideal to choose like-minded personnel for the organisation and the specific project. Generally, the choice of personnel to a project does not take in consideration to combine different genders, ethnicity, and educational background (Hallin and Karrbom Gustavsson, 2012). As the construction industry is increasingly characterised by international workers, international recruitment is described below.

#### 2.3.1 International recruitment

Lambert et al. (2000) state that in an increasingly globalised business world, many employees work across cultures in their daily working life. Therefore, global competence in organisational projects are important, including how to manage a diverse workforce, to stay competitive in international businesses. As global businesses become more common, the interactions across different cultures demand a broad understanding of many cultures for the workers in an organisation (Lambert et al., 2000). Additionally, Kang and Shen (2013) state that international companies are increasingly facing challenges regarding employment in their home countries and host countries when staffing internationally, to fill positions in their organisations.

International recruitment involves global staffing and selection processes, rooted in global staffing strategies (Sparrow, 2007). Moreover, international resourcing and recruitment can entail managing of for example foreign pools, and more recently, human resource functions help their companies to manage several options related to global resourcing. International companies are required to understand the influences of global markets and to comprehend the need of a global management staffing strategy that empower global competence among pools and foreign workers (Sparrow, 2007).

When recruiting internationally, there are challenges to overcome such as cultural differences. Cross-cultural issues in societies and organisations consist of different cultural elements, for example, language, communication, religion, values and attitudes, and social structure (Griffin and Pustay, 1999). Dong and Liu (2010) explain that working with culturally diverse workers and business partners have increased with the growing globalisation, which affect organisations in different ways. Companies that choose to stay in their native market will soon lose competitive advantages. Dong and Liu (2010) discuss cross-cultural conflicts as the largest challenge for international businesses. Individuals' behaviour is affected of the culture that they live in, and consequently, working with people from different cultures leads to that the business culture is formed from different cultural views. Therefore, it is important for managers and other employees to understand different cultures when working with foreign companies. The ability to understand culture will also facilitate the understanding of how people from different cultures react in various situations (Dong and Liu, 2010). Two examples of risks when recruiting internationally are presented below.

Firstly, English is the main international language used, however, not everyone can or want to speak English, which can be an issue in international business contexts (Hurn, 2007). Thus, international negotiations when establishing contracts are simplest conducted in the same language. Secondly, Svensson et al. (2015) describe that if the leadership is different for internal and external workers respectively, this can also be a risk. If a manager uses diverse leadership for two different categories of employees, this might imply mistrust, which does not help organisational development.

### 2.3.2 Motivation for employees and incentives for going abroad

Cassidy and Kreitner (2011) describe different factors motivating employees in companies working effectively. First, the basic needs such as physiological and safety needs of an individual must be fulfilled. Employees' motivation can be estimated from the level of engagement, satisfaction, commitment, and intention to quit. Moreover, a stimulating work environment with a high level of trust and teamwork will result in that the employees stay loyal to the company they are working at. Building teamwork and empowerment include creating an organisation in teams of different specialties rather than hierarchically. Empowering employees means making them motivated, committed, and letting them be creative. The employees should also be involved in decisions, and rewarded based on their performance (Cassidy and Kreitner, 2011).

The design of a job, including characterisation of tasks and responsibilities, leads to a certain level of motivation for the employee (Cassidy and Kreitner, 2011). An organisation's strategy and structure are vital for individual motivation and therefore also for organisational success. Challenging and interesting work tasks add meaning to the life of the employee. For example, an organisation can work with job rotation, meaning moving workers from one specialised job to another in periods, prevents stagnation for the employee. With job rotation, labour shortage

problems can be compensated, and some employees find it motivational. In summation, job performance and individual motivation are highly related to each other (Cassidy and Kreitner, 2011).

### 2.3.3 Characteristics of employees

Dubois and Gadde (2002) explain the complexity of the construction industry as one reason for the low performance and the inefficient operations that characterises the industry. The complexity of the industry arises because of, for example: workers being unfamiliar with the working environment, lack of entire specification of activities, and the constantly changing teams and tasks due to unique projects (Dubois and Gadde, 2002).

Park et al. (2005) explain the productivity in the construction industry as an issue. Since the construction industry is a highly competitive market, and the workers in the industry have to increase their productivity performance in order for the company they are working at to keep its position in the market. The definition of labour productivity is stated by the relationship between input and output, where the input is considered actual work hours and output is deliberated as installed quantity, see figure 2.

$$\text{labour productivity} = \frac{\text{input}}{\text{output}} = \frac{\text{actual work hours}}{\text{installed quality}}$$

**Fig. 2** Labour productivity (Park et al., 2005)

In addition, the necessity of development of the work in terms of effectiveness regarding time, costs, and quality are main challenges to overcome in the construction sector (Yuan et al., 2018). The quality delivered on a main contractor's projects is highly related to the performance and skills of the workers in the project. Bergman and Klefsjö (2012) explain that improved quality influences an organisation's success and profitability in different ways, as for example satisfied customers that will come back, a better position in the market, decreased personnel turnover and sick leave, increased productivity, shorter lead times, and decreased adoption costs. In short, enhanced quality means increasing customer satisfaction with less resource consumption. Quality enhancement is also about decreasing costs for the resources needed, for example through decreasing errors and defects and consequently the costs that this entails. Consequently, to deliver the demanded quality, it is required that the workers perform their work correctly and efficiently.

Furthermore, Panibratov and Larionov (2015) state that time is an important resource for increasing efficiency in the construction industry, and that high labour productivity benefits the use of time as a resource. However, Yuan et al. (2018) discuss that to increase blue-collar workers' efficiency and productivity, their well-being must be addressed. The construction business includes some risks for their workers such as a higher possibility of accidents, injuries and occupational illnesses.

Moreover, Cassidy and Kreitner (2011) define total quality management as building an organisational culture dedicated to teamwork, continuous improvements, processes, customer satisfaction, product quality, and service quality. An organisational culture should include elements that employees normally take for granted, like how people should think and act. This means making continuous improvements as the way of working. Further, Cassidy and Kreitner (2011) explain that it is never too early to start thinking about quality, and quality must inform the entire organisation in order to create reliable products that the customers want. Successful

total quality management requires the managers to understand the following four principles: do it right the first time, be customer-centered, make continuous improvements a way of life, and build teamwork and empowerment. The importance of do it right the first time, meaning building quality into the product, is less costly than changing a complete product (Cassidy and Kreitner, 2011). Being customer-centered includes both internal and external customers (Cassidy and Kreitner, 2011). Internal customers need the work to be done in order to be able to complete their own work. In addition, employees working with external customers need to foresee the customers' needs, listen to them, learning how to satisfy them, as well as responding to them in an appropriate way (Cassidy and Kreitner, 2011).

## 2.4 Internal personnel

Siew (2014) explains recruitment as bringing together the right kind of people that have the ability to contribute to the organisation, whether it is for short term or long term. Reasons for recruitment can be because of someone leaving the organisation, if the organisation is expanding and requires a larger workforce, or if the organisation requires new skills due to changes in the global environment. If the demanded position is available within the organisation, the requirement can be done internally. Recruiting internally may work as motivation for the employees, since they get the opportunity to see other parts of the organisation (Siew, 2014).

Working with internal employees can be advantageous for an organisation from many perspectives (Van Weele, 2015). When operating activities and services with internal workers, the organisation has full control of the work including full insight of costs and complete influence on the determination of price of a service or activity. The internal staff is only influenced by the company they are working for and the technology and materials used for the work will be decided to reach the planned quality. Also, there are relatively small risks when it comes to commercial, technical and performance risks. However, some competence might not exist in-house, why some activities and services are sometimes outsourced to subcontractors or external staffing agencies for example (Van Weele, 2015). Another way to work with internal employees is to have an internal workforce pool. An internal workforce pool can achieve greater flexibility similar to the flexibility that staffing agencies offers (Håkansson et al., 2013). The next subchapter will describe internal workforce planning.

### 2.4.1 Internal workforce planning

Cillie-Schmidt (2012) states that with increasing fluctuations in markets, the workforce, customer needs, technology and social shifts are keys to organisational success. This leads to that there is a strong need for organisations to be more flexible and to be able to predict the future, which requires a sustainable strategic planning process. Having the right workforce in place, at the right time, is a necessity if an organisation should be able to create a strategic planning process. Consequently, workforce planning is one of the most crucial aspects when performing the strategic planning. Cascio (2003) suggests different factors to think of when performing workforce planning and these are the business strategies implication for the human resources, possible internal and external constraints, decide what to do in the short run to prepare for long-term needs, and the implication for staffing, training and development.

Globalisation has, for example, lead to that skilled employees in emerging markets have increasingly chosen to work away from their home country, which leads to increased diversity in the global workforce pool (Cillie-Schmidt, 2012). In addition, workforce planning is important when a country does not have enough knowledge among workers, since workforce planning deals with shortage of people. Cascio (2003) states that all above aspects lead to

uncertainty, and since it is difficult to be efficient in an uncertain environment, workforce planning must be implemented in business planning, to reduce the uncertainties.

Furthermore, workforce planning includes determining and shaping the capability and capacity of the workforce, so that the organisation is able to adapt to changes and fulfil goals (Cillie-Schmidt, 2012). Cascio (2003) explains that workforce planning refers to planning regarding who will conduct the work within an organisation, but states that it must not necessarily be the organisation's own employees. This is connected to make or buy decisions, which have become increasingly important with the emerging globalisation, outsourcing, labour hire, new technologies, and organisational changes, which will be further addressed in following chapter.

## 2.5 External personnel

Companies are increasingly outsourcing their non-core activities to other actors, partly to be able to focus on their core business (Van Weele, 2015). The trend of outsourcing is considered as a business concept that maintains or develops an organisation's competitive advantages. The categories of activities that are outsourced have evolved in the latest years. In the beginning, some activities were being outsourced, but now, even entire business functions can be outsourced. Labour outsourcing is one form of outsourcing service meaning that either some employees come from other organisations such as subcontractors or staffing agencies, and they are mixed with the internal workers, and sometimes all employees come from other companies (Van Weele, 2015).

Van Weele (2015) discuss some critical success factors when outsourcing services or activities. It is crucial to understand the main contractor's goals and objectives, and the decision to outsource has to match the general business strategy. Moreover, it is essential to choose the appropriate subcontractors or staffing agencies that offer personnel who has the right capabilities to perform the work they are hired for. Additionally, the relationship between the subcontractor or staffing agency and the client, in this case the construction company, needs to be managed during the time of the contract (Van Weele, 2015).

Svensson et al. (2015) state that a main contractor can thus use external workers for their projects, such as subcontractors or personnel from staffing agencies, to complement their internal workers. This implies that the managers have to focus their leadership taking into account each employee's personal needs as well as the company's requests for effectiveness (Svensson et al., 2015). Humphreys et al. (2003) explain that using subcontractors where the main contractor manage and coordinate the activities to be performed, the main contractor can gain greater potential for cost savings using labour from subcontractors.

In addition, according to Konkurrensverket (2018), functioning competition is important for clients and the actors on the market. A market with competition means fairness among the companies, which generates advantages to the welfare. Organisations strive to become increasingly efficient and productive and the quality of products and services will be increased, and thus, competition is favourable for the organisations. In addition, competition leads to increased choices for clients as well as better prices, and is therefore also beneficial for clients (Konkurrensverket, 2018). Next, subcontractors and staffing agencies will be described in detail.

### 2.5.1 Subcontractors

In construction projects, there are usually various actors involved. One company is often in charge of the project, the main contractor, managing planning and performance of the different

actors, and subcontractors are often firms handling some operations in the work area (Lindahl, 1996). Behera et al. (2015) state that numerous subcontractors and vendors are often involved in construction projects, making the construction industry complicated due to that they operate to meet various business purposes. In addition, Harris and McCaffer (2001) explain that many main contractors use subcontractors for their projects to reduce the workload without having to hire additional internal employees. Thus, subcontractors create higher flexibility regarding capacity.

Errasti et al. (2009) claim that subcontractors are beneficial for main contractors since they often have specialised skills and expertise within certain construction areas. Further, the subcontractors are under pressure to deliver the right quality, service and costs, and to meet contractual obligations. Consequently, their value creation is necessary for their competitiveness, especially in today's construction market, which is increasingly globalised (Errasti et al., 2009).

Subcontractors are often selected from a comparison of quotations for a specific project. Most companies also keep a list containing information of different classes of work that subcontractors are approved to perform (Harris and McCaffer, 2001). Assessment of possible subcontractors is difficult for construction companies. Furthermore, the performance of a subcontractor is crucial when defining the success of a specific construction project. Cheng and Wu (2012) state that when a main contractor wins a tender, some parts of the work are often subcontracted through a bidding process to pinpoint which subcontractor that is best suitable to complete the subcontracted task successfully. Furthermore, when a main contractor subcontract sections of their work, they can reallocate resources at lower risks, and price-oriented subcontracting reduces the risks of costs not being covered by the bid (Cheng and Wu, 2012). Consequently, their flexibility is increased and their fixed assets are minimised (Hartmann and Caerteling, 2010). Fellini et al. (2007) state that the higher the transaction costs in the construction market, the stronger is the incentive to outsource and subcontract sections of work in projects, for a main contractor to share risks with subcontractors.

### 2.5.2 Staffing agencies

The staffing industry has expanded enormously in the Swedish labour market in recent years and staffing agencies that are leasing out personnel to other companies, leading the operations to be performed by the hired personnel, are increasingly common (Johnson, 2010). The trend to hire labour through staffing agencies came about due to the fact that many organisations went from managing as many activities as possible internally, to outsourcing activities that did not relate to their core competencies (Johnson, 2010). Kantelius (2012) explains that the increasing globalisation is another reason for the increased use of staffing agencies.

Further, Johnson (2010) states that companies primarily use rented manpower to, for example, replace absent personnel, anticipate the requirement for extra capacity over a limited period of time, and to staff temporary unoccupied jobs. In addition, Håkansson et al. (2013) and Kantelius (2012) explain that staffing agencies are also often contacted by main contractors when they require additional staff in peaks, which generates great flexibility to organisations. It is hard for companies to know beforehand the exact number of workers is needed in a project, which is why the temporary staffing agency workers can be hired with short notice (Håkansson et al., 2013).

Kantelius (2012) explains that an individual employed by a staffing agency, who often changes workplace, experiences no social unity or participation in achieving common goals. There is

also a risk that the individuals working for staffing agencies do not succeed to gain the demanded competence since they are constantly changing workplace. Moreover, workers from staffing agencies also tend to feel less social support from managers and colleagues, which have a negative effect on workers' job satisfaction as well as their personal health. An uncertain work situation often has a negative impact on both work and leisure time. Work assignments are often less qualified, opportunity for development are often limited, economic security is uncertain, and predictability about the employment are worse, which all lead to unhealthy stress (Kantelius, 2012).

### 3. Methodology

This chapter presents the methodology used in the research work. The sub chapters describe different methodologies and how they have been used in this research project. This chapter also contains a description of the research work, meaning the researchers' procedure in broad. The chapter closes with a research outline, describing the research work process.

#### 3.1 Research approach

In this project, an inductive research approach was chosen. The specific case required an inductive research approach, and the exploratory attitude towards the findings directed the study in the meantime of the investigation. Frostling-Henningsson (2017) describes that when practising an inductive research approach, the researcher is empirically driven and conclude general findings from an amount of separate empirical learnings through observations and gained knowledge to reach conclusions.

Moreover, Patel and Davidsson (2011) state that a researcher that work inductive is investigating an area with limited available information, and that the inductive research approach will form a basis for future investigations in the same field. In this study, the findings resulting from the empirical data collection are summarised and the general findings can be further investigated in the future.

In addition, this investigation is conducted as a single case study at a case company acting in the construction industry. The background and problem description investigated in this study is company specific, and therefore, it is a unique case with specific circumstances. According to Bryman and Bell (2015), a case study conducted for a single organisation is defined as a single case study, where a detailed analysis is carried out from the particular case. Performing qualitative interviews for a case study is typical for intensive research studies of a specific case reviewed for an organisation (Bryman and Bell, 2015).

#### 3.2 Research strategy

A qualitative research strategy was used when analysing the requirements of a workforce pool at the case company Contractor Inc. This method was used since personal and detailed opinions from Contractor Inc.'s employees working on a strategic level were requested. Bryman and Bell (2015) explain that a qualitative research strategy emphasises words rather than numbers, and was appropriate in this report because the opinions of the employees were investigated. Furthermore, qualitative data is often collected through interviews or observations, and is used when there is a motive for understanding the data (Bryman and Bell, 2015).

Accordingly, findings and conclusions regarding the demand and the structure of an internal workforce pool are based on the results from interviews with employees at Contractor Inc. The interviews with personnel at various positions and business units helped to understand how the strategy, when taking decisions about manpower in a new project, should be outlined. Qualitative research methods are flexible since they are able to adapt to the current situation and its development (Eliasson, 2013), and further, Bryman and Bell (2015) explain that material is often collected until a conclusion can be made, that is, when collecting more data will not generate additional information. In this report, data was collected until conclusions could be drawn from the interviews and the literature review.



### 3.3 Data collection

The data collection in this research study consists of primary data, secondary data and a literature review. The primary data, meaning data that was collected by the researchers themselves (Eriksson and Wiedersheim-Paul, 2014), in this case the interviews, made up the core of empirical findings. This, because the employees possessed most knowledge about the issues under investigation. Moreover, Patel and Davidsson (2011) explain that the amount of data that is collected depends on the research questions to investigate, and the time available for collecting and analysing the data. Eriksson and Wiedersheim-Paul (2014) explain the importance of securing the availability of interviewees and to accomplish a more trustworthy study, the data should cover material from different viewpoints. Therefore, several interviews with people in different positions and in different departments were conducted in order to understand and analyse the different opinions of the employees at Contractor Inc. regarding an internal workforce pool.

The secondary data given from the case company was a pre-study within the field of an internal workforce pool. According to Eriksson and Wiedersheim-Paul (2014), secondary data is already existing data which can be found in databases and registers for example. Normally, research studies begin with the researchers going through secondary data available, to gain a view of the field of investigation. In line with this methodology, the pre-study was studied initially, to gain a view of the field of investigation from Contractor Inc.'s point of view.

A literature review within the field of a workforce pool, strategic purchasing of manpower, subcontractors and staffing agencies were conducted after reviewing the pre-study, to get information about what is already studied in relation to the investigated topic. Bryman and Bell (2015) claim that a literature review is conducted to understand the already existing theories and concepts and which research methods that have been applied when researchers have been investigating the topic before. However, the literature in relation to internal workforce pools were very limited. Thus, the literature review is focused on areas relating to the subject.

#### 3.3.1 Interviews

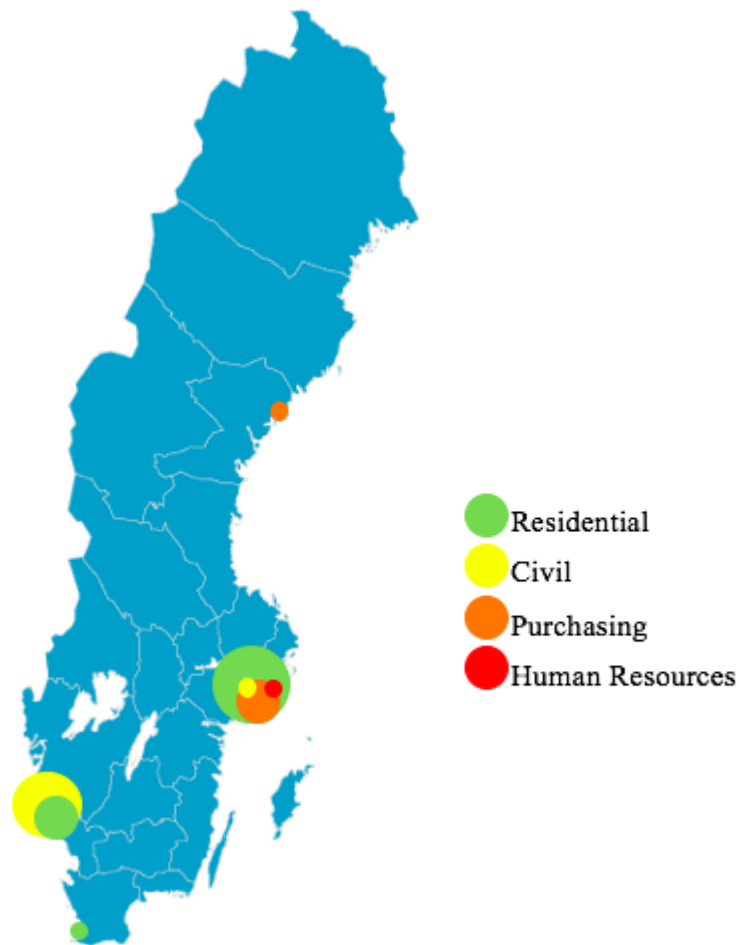
The interviews were accomplished through semi-structured interviews, which according to Bryman and Bell (2015), allows the researcher to have an open mind through the interview and allow the researcher to ask follow-up questions. 23 interviews have been carried out internally at Contractor Inc., with employees working in different regions at the organisation. Only white-collar workers have been interviewed in this investigation, because they had the knowledge required for this research study. The interviews were conducted in order to get a deeper understanding of the current situation at Contractor Inc. and to investigate the divergence between the different regions. The interviews were performed through face-to-face meetings or through video conferences and the different themes discussed in the interviews covered the areas workforce pool, strategic purchasing of manpower, subcontractors and staffing agencies. The interview questions can be found in Appendix A.

The employees interviewed held following positions: Regional Manager, District Manager, Project Manager, Operational Manager, Regional Purchasing Manager, Purchasing Manager, Department Manager, Human Resource Manager, Blue-Collar Coordinator, Category Manager, and Economic Controller, see table 1 for additional information. These positions exist in all regions, and therefore, several employees with the same title have been interviewed, see figure 3 for locations. The selection of interviewees was based on employees at positions with knowledge about both strategic and operational responsibility. Thus, the interviewees either have a demand for the service from an internal workforce pool, or they are the persons which

can manage it. Also, the interviewees had engagement in either the planning process of projects, through the realisation of projects or held a purchasing perspective.

**Table 1** Date of interviews, interviewees' positions and business units

<b>Interviewee, date of interview</b>	<b>Position</b>	<b>Business Unit</b>
Interviewee 1, 2018-02-14	Operational Manager	Residential
Interviewee 2, 2018-02-16	Operational Manager	Residential
Interviewee 3, 2018-02-19	Blue-Collar Coordinator	Residential
Interviewee 4, 2018-02-19	Regional Purchasing Manager	Residential
Interviewee 5, 2018-02-20	Operational Manager	Residential
Interviewee 6, 2018-02-21	Blue-Collar Category Manager	Purchasing
Interviewee 7, 2018-02-23	Regional Manager	Civil
Interviewee 8, 2018-02-23	Category Manager	Purchasing
Interviewee 9, 2018-02-26	Purchasing Manager	Civil
Interviewee 10, 2018-02-27	Purchasing Manager	Residential
Interviewee 11, 2018-02-27	Regional Manager	Residential
Interviewee 12, 2018-03-06	Regional Purchasing Manager	Residential
Interviewee 13, 2018-03-07	Project Manager	Civil
Interviewee 14, 2018-03-08	Project Manager	Residential
Interviewee 15, 2018-03-09	Project Manager	Civil
Interviewee 16, 2018-03-12	Human Resource Manager	Human Resources
Interviewee 17, 2018-03-13	Operational Manager	Civil
Interviewee 18, 2018-03-13	White-Collar Category Manager	Purchasing
Interviewee 19, 2018-03-14	Project Manager	Residential
Interviewee 20, 2018-03-27	District Manager	Civil
Interviewee 21, 2018-03-28	Department Manager	Civil
Interviewee 22, 2018-04-05	Project Manager	Civil
Interviewee 23, 2018-04-25	Economic Controller	Purchasing



**Fig. 3** Location of interviews, where the size of the circle represents the number of employees interviewed in each city, and the larger the circle, the more interviews have been conducted

### 3.3.2 Pre-study

Secondary data was used as a complement to the primary data collection. A pre-study within the field of investigation, produced by internal employees at Contractor Inc., was used as a basis for the project. The pre-study conducted by Contractor Inc. include juridical matters, potential benefits and barriers with an internal workforce pool. Eliasson (2013) states that secondary data used in research projects can be pre-studies in the area of investigation.

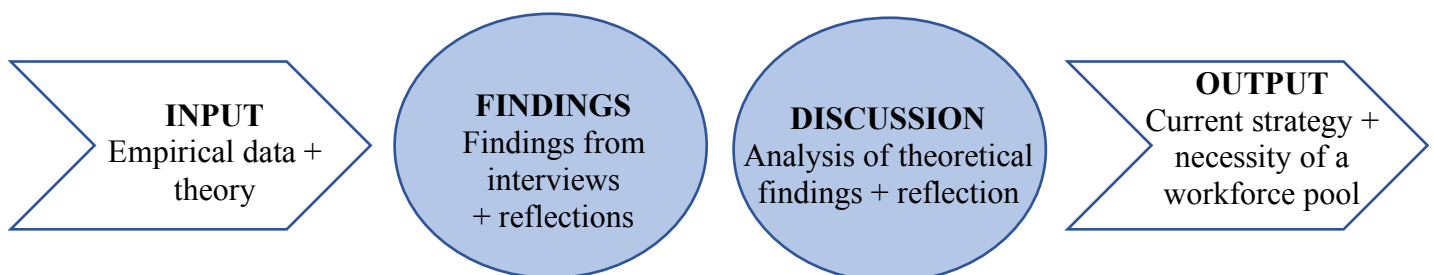
### 3.3.3 Literature review

The literature review consisted of literature relating to workforce pools, subcontracting and staffing agencies. The previous studies in the researched area was collected through scientific articles, books, journals and Internet pages. Previous research within the field of an internal workforce pool at construction companies were limited, especially since every construction company has its own situation and strategy when appointing personnel to construction projects. The previous research found, that related to this specific case study, is presented in the theoretical framework. Bryman and Bell (2015) claim that when doing a literature review, it can be found that various research have been conducted in a certain field. Still, there might be some aspects within certain fields where limited or no research has been carried out.

### 3.4 Data analysis

The collection, structure and analysis of data were performed iteratively during the progress of the project so that the findings from previous work could be applied in later phases of the process. A prepared structure of the data collection was used to ease the analysis of the gathered information resulting from the interviews. This is in line with Backman's (2008) conclusion that data should be organised when the data collection is made, in order to achieve clearness so that the data can be analysed and interpreted.

Bryman and Bell (2015) state that there are several stages to be performed in the process of analysing data. Interviews are often first audio-recorded and then transcribed so that the researcher can code the transcripts. Accordingly, the interviews in this study were audio-recorded at the interview occasion, and afterwards transcribed. Furthermore, Bryman and Bell (2015) explain that when coding transcripts, to make sense of the collected data, one approach is to perform a thematic analysis. A thematic analysis enables the researcher to link the findings of the collected data with the research questions and theories. Also, the data analysis process is essentially about reduction of data to be able to interpret the findings into conclusions (Bryman and Bell, 2015). In line with this data analysis method, the data relating to the themes of the interviews were coded, see Appendix A for the interview guide. All interviewees answered the questions in the interview guide which made it possible to achieve a result that could be analysed. The learnings from the gathered data were structured and the relevant findings were presented in text, graphs and tables. Figure 4 shows the different stages of the data analysis.



**Fig. 4** Analysis model

### 3.5 Research reliability

Bryman and Bell (2015) argue that reliability and validity in qualitative research is important. The validity of qualitative research is based on whether the researcher is observing and measuring what he or she has stated. To achieve high qualitative research reliability in this project, the interviews performed in the study were recorded and transcribed after every interview session to be able to systematically interpret and analyse the data.

According to Bryman and Bell (2015), reliability can be divided into internal and external reliability. Internal reliability is achieved when more than one observer interprets the findings from what they have heard or seen similarly, whereas external reliability is based on the degree to which a study can be reproduced with the same results. The interviews in this report are critically examined by two researchers, and the material used is agreed upon by the two researchers.

The employees at Contractor Inc. that were interviewed were employees that have a lot of knowledge and experience in the investigated area. Also, managers from different levels of the organisation were interviewed to gain information from different areas and business units. This resulted in credible answers and made it possible to present a solution that could be widely

accepted and potentially adapted in the future. Patel and Davison (2011) describe that when using interviews as a basis of findings, the credibility of the data is highly dependent on both the interviewees and the observers of the interviews.

Eliasson (2013) describes that it is essential to critically analyse the secondary data in research projects, while secondary data gathered from pre-studies are often credible sources. The pre-study is assumed to be valid data since it was conducted by a team of several internal employees, with knowledge in the field of workforce pools, working at Contractor Inc. The literature used in this project was critically examined, by checking that several references confirmed the same information. To critically examine literature is, according to Bryman and Bell (2015), of importance and it is explained that one way of doing it is checking if the literature can be found somewhere else.

The different data collection methods, interviews, pre-study, company documents and literature review, were used in this research study to reach validity and credibility of the findings through triangulation. Saunders et al. (2016) explain triangulation as a validation technique that helps to review the quality of the research. Triangulation means that the researchers use more than one source of data to confirm the validity and credibility of the study. The aim is to use two or more different methods of data collection, so that the researchers can be sure that their findings are correct (Saunders et al., 2016).

### 3.6 Ethics

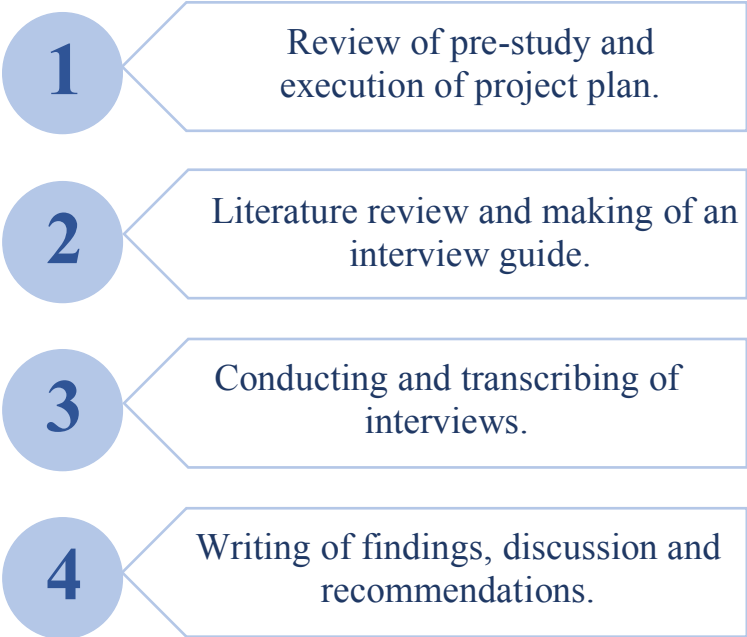
Bryman and Bell (2015) explain that ethical issues have been increasingly discussed in recent years. Contractor Inc. is a value driven company, which includes ethical issues. As Contractor Inc. requested this project to be carried out, Contractor Inc.'s values were required to be followed throughout the whole project process. Ethical issues, when doing a research study, include how to treat people and if there are any activities that should or should not be used in the relation to them (Bryman and Bell, 2015). Consequently, all work, including all interviews, were conducted from a conscious ethical point of view.

Additionally, O'Leary (2017) states that researchers have the responsibility towards the respondents participating in the research to care about their mental and physical well-being. Permission from the respondents of for example an interview, as well as ensuring confidentiality and anonymity are crucial. All interviewees performed with employees at Contractor Inc. are anonymous, and it is therefore not possible to track which employee who stated which information. The computers used during the work belongs to Contractor Inc., which decrease the risk of dispersal of collected data.

### 3.7 Research process and research outline

This paragraph gives a summary of the research project, see figure 5. This research project started with getting familiarised with the pre-study conducted and provided by Contractor Inc, in order to get an understanding of what has been done so far and where to start this project. This gave a clear picture of how to structure the work, and consequently, a project plan was executed. Thereafter, the literature review started and relevant literature was identified. An interview guide was then produced based on the pre-study and the theoretical framework, with the aim to answer the research questions. Then, Contractor Inc.'s organisational structure was mapped to find the right in-house employees to interview and the interviews were then conducted. The interviews were later transcribed and then organised, based on interview questions, in a document. The document was used as the basis for the findings. After this, it was possible to summarise findings and make concluding remarks. The project has been

executed at Contractor Inc.'s office in Gothenburg and at the library of Chalmers University of Technology.



**Fig. 5** Research outline

## 4. Findings

This chapter is based on empirical findings resulting from the interviews held at Contractor Inc. including reflections that can be drawn from the interviews. Chapter 4.1 presents Contractor Inc.'s current strategy when appointing personnel to projects, and chapter 4.2 presents the demand for an internal workforce pool including suggestions for the structure of the pool.

### 4.1 Current strategy

The chapter about the current strategy aims to answer the first research question, *how does the current strategy at Contractor Inc. look like when planning labour?* This chapter presents the current strategy when planning labour. A description of the differences when planning blue-collar workers and white-collar workers will be presented. Furthermore, the motivation and productivity among Contractor Inc.'s workers are explained. Finally, some crucial factors in construction projects are defined.

#### 4.1.1 Strategy when appointing personnel to projects

A manager from the human resource department at Contractor Inc. stated, *“the organisation’s strategy is having own employees as far as possible, but supplemented by subcontractors and staffing agencies in projects when needed”*. A long-term strategy with in-house competent employees is necessary if Contractor Inc. should be able to conduct and supply projects with high quality and stick to financial goals since this requires comprehensive control of the project. Further, the Human Resource Manager explained that today’s situation, with a strong labour market for workers, requires Contractor Inc. to use subcontractors. Especially in big cities, the access of manpower is limited due to the many ongoing projects there. Despite this, white-collar employees consider that there is no stated strategy at Contractor Inc. for how to appoint labour in projects. Rather, it depends on which person in each district that appoints workers to projects, and his or her opinion as well as the characteristics of the project. However, mutual is that internal employees should be occupied first.

Which position the person that appoints personnel to projects differs between the different districts. An Operational Manager at Civil explained that in his region, the District Manager at Civil does a quarterly calculation of the number of blue-collar and white-collar workers needed respectively in the nearest future and then it is up to the region to decide if the calculation is correct or not. The number of own employees needed are decided based on the calculations, and if more workers is needed, Contractor Inc. hires. Concerning the fact that there is no clear strategy that everyone follows, it is suggested to implement an explicit and common strategy for appointing personnel to projects. The strategy should be communicated to every business unit, so that the whole organisation strives towards an aligned mode of operation.

Normally, Contractor Inc. starts with a projection for the tender process, and if there are no internal white-collar employees available, the procedure is to not leave a tender. If Contractor Inc. on the other hand makes a tender and wins a bidding process, the project planners start looking in the own district for available blue-collar workers, and if they are lacking workers, they check other districts. Lastly, the project planners employ subcontractors or hire personnel through staffing agencies. However, all employees at Contractor Inc. do not follow this, and it may happen that a project planner employs subcontractors before checking if there are available workers internally. This is an indication of that an explicit strategy is needed at Contractor Inc. when appointing personnel to projects. Still, subcontractors could be procured when Contractor Inc. do not have the competence within a certain area, if it is easy to demarcate some areas and Contractor Inc. wants the risk to be shared, or if it is more cost-effective. The strategic decision

of contracting external labour or hiring employees to a project could also be changed during the project if something suddenly happens. Further, it happens that the company hires white-collar workers as consultants in a specific field where they lack competence, as for example testing officers. This could indicate that it is preferred to have other alternatives than just in-house labour when a specific competence is not available internally or when all employees are occupied by other projects.

A Category Manager explained that *“procedures for how to purchase or hire external personnel to projects differ between our departments”*. At the business unit Residential, this is done through a Blue-Collar Coordinator. The Blue-Collar Coordinator looks at ongoing and upcoming projects and identify where there is a lack of workers and hires personnel based on this need. It is the Blue-Collar Coordinator’s task to contact any of the staffing agencies that Contractor Inc. has a framework agreement with. In contrast, another Category Manager claims that project planners in other business units manage the contract with staffing agencies themselves, while other white-collar employees at Contractor Inc. state that it happens that project at Residential also manage the hiring process themselves. This can be risky since the project members do not always know which rules Contractor Inc. has regarding staffing agencies. This implies that there is no standard procedure for how to purchase external personnel at Contractor Inc. Therefore, employees with knowledge of rules and collective agreements should manage the hiring procedures, to avoid unnecessary risks.

To not risk having blue-collar employees unemployed, the aim is that the number of employees should be equal to the periods with lowest demand, and crew peaks with subcontractors and labour from staffing agencies. An interviewee explained, *“this means having roughly around eighty percent in-house employees and twenty percent subcontractors or labour from staffing agencies”*. But, since Contractor Inc. works in a project-based environment, is it hard to know what actually constitutes eighty percent and if eighty percent is always needed. A Project Manager working for the business unit Residential explained that the number of in-house employees is currently lower than eighty percent due to the limited availability of personnel. He described the project’s characteristics as crucial when deciding if subcontractors or staffing agencies should be used. Projects with mostly internal white-collar employees are best supplemented by workers from staffing agencies, while projects with just a few own blue-collar workers are best supplemented by subcontractors. Considering these issues, one barrier for a common strategy can be the project-based environment, since the industry is capricious. Even though, the project-based environment aggravates the work with appointing of personnel to construction jobs, the employees should still be able to increasingly follow a common strategy.

The Purchasing Manager at Residential states that *“my region has decided to have around sixty percent own employees, since today’s market cannot supply workers equivalent to eighty percent, and every local manager should report its demand in Excel, which is then coordinated by the central organisation”*. Today’s situation, with a limited availability of workers, means that districts want to keep their blue-collar workers and instead of reporting to the central organisation they have their own Excel list and coordinates the labour needs themselves. However, this is not enough and the districts does still purchase or hire external workers. This shows that Contractor Inc. does not have a functioning mode of operation, why a common strategy for all business units requires to be implemented and followed.

A Human Resource Manager explained that *“Contractor Inc. aims to have a common strategy for all business units”*, which indicates a centralised organisation. At Contractor Inc., it is the



projects that manage the organisation, meaning that the company is managed from the bottom to the top. This indicates a decentralisation rather than a centralisation of the organisation.

The managers of purchasing at both Civil and Residential explains that they want the strategy for purchasing of employees to be more international, especially when purchasing subcontractors within the field of concrete-work, since it is cost-effective. In contrast, Contractor Inc. has recently closed parts of their Poland branch. Before, Contractor Inc. had their purchasing department as a central supporting unit, but now they have restructured the organisation so every business unit have its own purchasing function at the respective unit. A closing of foreign offices does not indicate that top management supports international procurement, since the organisation is closing foreign branches rather than keeping international relationships within the organisation.

Due to Contractor Inc.'s project-based environment, resource planning with a long-term perspective is difficult, since different projects require various number of blue-collar employees. In the short-term, a well-worked time-plan and resource allocation plan is requested. In addition, Contractor Inc. is sometimes inaccurate in the planning process, which leads to emergent solutions during the project execution. A Project Manager at Residential that has worked with these questions for many years adds that: *"I think that Contractor Inc.'s personnel have difficulties in thinking strategically regarding labour needs since we are working with a short-term perspective, we have several projects at the same time, and much is uncertain in the beginning of a new project"*.

Further, projects tend to grow which leads to more working hours than planned. This means that in-house employees are not always available when the next project they have planned to take part in starts, and that Contractor Inc. in that case is forced to employ subcontractors or use staffing agencies, which will increase the costs. In addition, finding the right workforce on a short notice is often difficult. A District Manager for Civil explains that Contractor Inc. does not have enough blue-collar workers, which aggravate the resource planning. To avoid hastily designed solutions that are costly and not well-deliberated, this could suggest that Contractor Inc. should develop and improve their planning process.

#### 4.1.2 Differences between planning white-collar workers and blue-collar workers

The labour planning process of white-collar workers differ from the labour planning process of blue-collar workers. White-collar workers take part in the start-up process of a new project and their roles in the project are planned based on their individual competence. Contractor Inc. already specifies in the tender documents which white-collar workers should take part in the project. Preferably, the tender should contain workers with high competence and experience from other projects. White-collar workers also have clear development plans and goals, and they are planned on a long-term perspective. White-collar workers work with tasks such as time schedules, monitoring of economy, planning, make floor plans, and documentations. They also work as team leaders for in-house employees and for employees from staffing agencies, while subcontractors normally have their own team leaders. A Project Manager at Residential states that *"foreign subcontractors' team leaders are not enough since they are not familiarised with Swedish standards and rules"*. Therefore, additional team leaders from Contractor Inc. is necessary as well when hiring foreign subcontractors. This indicates that there are hidden costs when hiring foreign subcontractors, since Contractor Inc. assumes that subcontractors have their own team leaders.

Blue-collar workers are not normally planned at an individual level, but a Regional Manager at

Civil stated: *“it becomes more and more important considering the increase of younger white-collar workers with less competence, because it requires blue-collar workers with experience”*. In general, blue-collar workers are planned based on the numbers needed and it happens during the project that more blue-collar workers than calculated are needed, which is, according to a Procurement Manager, one reason to why it is difficult to think strategically about the staffing of construction projects. The company has planning tools for planning of white-collar workers, but since the projects’ demands are narrowly reported, Contractor Inc. does not use this for blue-collar workers, meaning that they are missing a planning tool for blue-collar workers. Considering that the employees narrowly use the existing planning tool, it should be replaced with another tool, or the existing planning tool should be educated to the employees.

#### 4.1.3 The clients’ wishes for workers

The interviewees explained that it happens that Contractor Inc.’s clients request which kind of personnel that should be used. Some clients simply demand a project with practical solutions and do not care about which kind of workers that is occupied in their projects. Other clients prefer local labour in order to favour the local municipality, but this is something that changes more and more. Clients increasingly see international workers as necessary and allows it more than before and prefer competition from different companies. The client may also have a relationship to another company and wants them to join the project. It happens that clients think Contractor Inc. is too expensive and want subcontractors to be used because of that, in that case they may employ subcontractors for parts of the projects, which requires that it is easy to divide the work clearly. Clients can also ask for references for the white-collar workers concerning their performance on old projects, because they want competent personnel. Asking for references is however unusual for blue-collar workers. A Project Manager for Civil explains: *“our clients may have considerations about which kind of labour to use, but in the end, we decide which kind of labour to use”*. Further, a Regional Manager at Residential explains that Contractor Inc. has the responsibility to explain to the client why the chosen workforce is used. Competition is desired for both price and ability to execute projects, which is important for the client to understand, according to the interviewee. This implies that the advantages of competition when using external companies can be lost with an internal workforce pool.

The Category Manager at the Purchasing Department explains that if Contractor Inc. choose to contract subcontractors in a project, clients want Contractor Inc. to ensure that the subcontractors follow Swedish legislation, rules, regulations, taxes, salary, as well as being ethically correct. The Category Manager continues to explain that *“this is appreciated by us since we are able to source subcontractors that do not work appropriately even though they are cheap and “looks good” on paper”*. The clients’ request for workers give an indication that the clients demands cost-effective solutions and external companies that work ethically correct, which are in line with the core values of Contractor Inc. With an internal workforce pool, Contractor Inc. could make sure that the workers follow the Swedish rules and act ethically correct at their construction sites.

#### 4.1.4 Internal motivation and productivity

The general perception at Construction Inc. is that the employees at Civil are more motivated to work than employees at Residential, because of several reasons. An Operational Manager at Civil think this depends on the type of project and states that *“at Residential, they often have several subcontractors, while we at Civil have less subcontractors which results in increased team-spirit among our internal blue-collar workers”*. The two business units also work with different framework agreements, which can be another factor for the varied motivation. This implies that the motivation of the employees partly depends on the working conditions, and partly depend

on that when they work with internal employees, the team-spirit is more present. A Regional Manager at Civil explained that he and his team has worked with increasing team-spirit, which requires leadership-skills, letting people thrive, as well as making them complicit. The Regional Manager at Civil also explained that it is important that all employees are treated equally, and explains that *“nobody is better than anyone else, we only have different roles in the projects”*. However, Contractor Inc. is constantly trying to make all workers motivated and explains that motivation also depends on the individual. This could suggest that working with team-spirit actually gives positive results on the projects’ outcome and that motivation of the employees do not only depend on the business units and their characteristics.

#### 4.1.5 Crucial factors in construction projects

There is a disagreement whether Contractor Inc.’s projects are productive or not. Some interviewees consider Contractor Inc. to be productive, and a Project Manager at Residential says *“most of our projects are productive, but they can always be even more productive”*. In contrast, some interviewees think that their own blue-collar workers produce less than subcontractors, therefore, one challenge for Contractor Inc. is to get their own blue-collar workers more productive. Since Contractor Inc.’s internal blue-collar workers have an extended role at the construction sites, it is suggested that their productivity cannot be directly compared to external blue-collar workers. The Project Manager at Residential continue to explain that it is always possible to work with continuous improvements, to find new ways of working more effectively, to purchase more effective machines and better planning. Recently, Contractor Inc. started using planning experts to improve planning and logistics in projects. Among other things, the planning experts examine how to use digital techniques to avoid problems.

A Head of Department at the business unit Large Projects explains that Contractor Inc. is taking small improvement steps every day and explains that he thrives on continuous improvements and never being satisfied. This implies that Contractor Inc. works with continuous improvements, which is a prerequisite in the construction industry. However, the blue-collar workers have to be willing to work with continuous improvements and productivity. It is considered that not every blue-collar worker at Contractor Inc. is willing to perform at their best, and thus, this could be an implication of the lower productivity among the internal workers. In addition, with consideration to the interviewees’ answers, it can be considered that Contractor Inc. is not completely satisfied with in-house blue-collar workers’ productivity.

Furthermore, the interviewees were asked if they consider cost, time, or quality as most important for Contractor Inc.’s projects, which generated mixed answers. However, common among the interviewees was that they found it difficult to just choose one because cost, time and quality are interdependent, and a Regional Manager at Residential explains that *“the factors are all important and the factors connect to each other”*. Some interviewees described that choosing between cost, time, and quality depends on which client and which type of contract it is. If the costs are confirmed already in the beginning of a new project, costs are most important since the company has to comply with the budget. In another project it may be acceptable to exceed costs if the project is finished on time and the quality meets demands. Contractor Inc. usually decides together with the client what is most important for the client. For example, if building a shopping mall, the time is important since a delayed building will lead to lost sales for the client. Even though it is important to take the client and type of contract into consideration, it is suggested that Contractor Inc. should agree upon which factor of cost, time or quality that is the most crucial one to deliver, so that all employees are working aligned in the organisation. If an internal workforce pool should be introduced, the most important factor to work towards should be the same one as the most important one for the projects.

Interviewees who thought that quality is most important proposed that building with the right quality is a requirement, but this requires planning and projection in order to not exceed the time-span or costs. A blue-collar coordinator considered that *“the quality we deliver is most important, because in the long run it has an economic advantage if you deliver with high quality”*, while an Operational Manager at Residential suggested quality and time as most important in the long-run and costs in the short-run. Inadequate quality will not generate any clients in the long-run, and a human resource manager adds that quality also includes ethics, values and security.

Those who chose costs as most important said that it is not possible to have a business that is not profitable. An Operational Manager at Civil explained that if you have a budget and a plan which you adhere to, you know that if anything changes you have to add an extra cost that the clients has to pay for, and consequently, focusing on costs gives you control over the complete project.

Interviewees who chose time as most crucial explained that keeping time in most cases means that projects stick to costs and right quality. If a project overrun the estimated time and workers are losing time and workers are less engaged in their work, this may result in exceeded costs and affected quality. Further, a Purchasing Manager for Residential explained that time is most important since customers often have an incentive like time to market. A Project Manager at Civil recently hired by Contractor Inc. thought that time was the most important factor, since he had experience of construction companies not being finished on time, and he says, *“I have worked at the client’s side before, and when a main contractor doesn’t deliver on time, this is really frustrating”*. Another Project Manager at Residential explained that Contractor Inc. often supplies projects with better quality than demanded, meaning a lower quality would be enough, which could then decrease costs and time. To conclude, the interviewees suggested that to keep time and to deliver the requested quality is more important than just keeping time.

The main suggestion is that Contractor Inc. should agree upon which factor of time, cost or quality that is most important for their organisation from a holistic perspective. In this case, time is proposed to be the most important factor because of several reasons. Firstly, keeping the time frame will facilitate the planning process, which is already identified as a problem at Contractor Inc. Secondly, not keeping the time may affect the customer if having the incentive time to market, which imply the importance of time. Thirdly, since exceeded time may increase costs as well, due to a longer project period, this is an incentive for being finished on time. Of course, the cost and the quality aspects are still important for Contractor Inc. Finally, in terms of an internal workforce pool, all three aspects of time, cost and quality are important according to the interviewees. The workers from an internal pool facilitate projects being finished on time by providing manpower, the cost of the workers is known, and the quality they deliver will be in line with the goals since they are educated to perform the work the way Contractor Inc. does.

#### 4.2 Necessity of a workforce pool

The chapter about the necessity of a workforce pool at Contractor Inc. aims to answer the second research question: *What is the demand for an internal workforce pool when planning manpower for construction projects?* This chapter presents opinions regarding outsourcing of the workforce to subcontractors and staffing agencies. The advantages and challenges of a workforce pool at Contractor Inc. are described, and finally, suggestions regarding a possible structure of an internal workforce pool are presented.

#### 4.2.1 Subcontractors

A manager at the business unit Large Projects explains: “*outsourcing parts of projects to subcontractors can contribute to competitive advantages regarding sharing of risks and lower total cost of the project*”. Especially when selling to foreign subcontractors the cost of personnel is low since the foreign white-collar workers often have lower salaries than Swedish employees. Then, Contractor Inc. knows exactly how much certain parts will cost, which consequently makes it easier to stick to the budget. Subcontracting also means outsource of risks. To work actively with mitigating risks and to make use of opportunities are also important parts of the financial work. In addition, an interviewee explains that “*we prefer margins when it comes to the number of blue-collar workers needed*”, including workers with competence and experience. The interviewee continues: “*it may increase costs in the beginning, but it will be balanced in the long-term*”. It is preferable that Contractor Inc. secure costs in different ways, in order to not add extra costs during the project execution that was not communicated to the client in the tender process.

Furthermore, a District Manager at Civil explains that the exposure to competition when subcontracting segments of projects is also advantageous due to that Contractor Inc. does not have to manage as much machines, equipment and personnel. A Blue-Collar Coordinator claims that “*in general, the final quality is dependent on the individuals who perform the work and not their form of employment*”. Some subcontractors are niched towards for example bricklaying, tiling or rock blasting, hence they might deliver the right quality more efficiently. Moreover, an Operational Manager at Residential says that the internal workers at Contractor Inc. have an extended role in the projects and are cultural carriers of security routines and perform general service tasks during a working day. Therefore, the internal workers cannot be evaluated fairly when it comes to for example productivity. This indicates that subcontractors’ rates of production cannot be compared directly with the internal workers’ effectiveness because it can seem that the internal workers are not as competitive, although they have other value-adding functions.

Most subcontractors working for Contractor Inc. are motivated and have a positive attitude towards their working tasks. The subcontractors often just focus on doing their job and they have their own team leader instructing the tasks to be performed by the team at the construction site. In the beginning of a collaboration with a subcontractor, Contractor Inc. holds a start-up meeting where all responsibilities are determined, a Project Manager at Civil explains. At the first day of work at the construction site, a vocational induction scheme with a security briefing including risks and work environment is presented. An interviewee stated, “*it is mandatory for external employees to follow Contractor Inc.’s values, if we should continue working with them*”. Yet, there are issues with security at the project locations, which is why conducting a contract covering responsibilities and expectations is necessary.

Most importantly, the responsibilities in the contract with the subcontractor must correlate to the contract Contractor Inc. has with its client. There are both national and international cultural differences regarding safety philosophies in the construction industry. Some subcontractors have defective safety philosophies because they are too focused on being finished on time and to reach their productivity goals. This suggests that Contractor Inc.’s internal workers are generally following the security and ethical values to a larger extent than external employees. The same goes for sustainability goals. An Operational Manager at the business unit Residential says that “*sustainability is a main focus for Contractor Inc. and our company image can be damaged when working with subcontractors that do not follow our routines*”. Occasionally it can be hard to get hold of the right subcontractors if they have other projects to perform for

other main contractors. Recurring subcontractors that are familiar with the mode of operation accepted at Contractor Inc. are an easier solution when there is a need to outsource parts of a project. Familiar subcontractors are not always available for Contractor Inc. which requires the organisation to use new subcontractors and therefore it is suggested to make sure they are following Contractor Inc.'s rules, which may generate extra costs for checking and education.

According to the operational managers interviewed at Contractor Inc., the delimitations of work responsibilities on the building sites is often uncomplicated with Swedish subcontractors. Nevertheless, a Project Manager at Residential stated *“some foreign subcontractors require additional definitions of their field of responsibility due to cultural and language differences”*. It is crucial that all workers on site have the correct understanding of building documents and construction plans, so that everyone is following the same instructions, an Operational Manager explains. For example, when it comes to cleaning at construction sites, some foreign workers want to have strict orders, while it is implicit for the Swedish building workers. Thus, it is important that the team leaders from foreign subcontractors can communicate with the Swedes at the building sites to avoid misunderstandings. Sometimes an interpreter is required at the larger sites, and sometimes foreign employees require additional team leaders. This points to the importance of Contractor Inc. being clear about the work to be performed by subcontractors, because work that is performed incorrectly will increase the costs. In addition, documents and instructions might need to be translated, for example, which might generate additional cost as well.

#### 4.2.2 Staffing agencies

A Project Manager at Civil stated: *“the benefits with using staffing agencies is that it is flexible in that manner that it can stabilise construction-peaks on a short notice when it is necessary”*. If a building worker from a staffing agency deviates from the code of conduct and security routines at Contractor Inc. it is easy to replace this individual. The productivity among the workers from national and international staffing agencies differs, but commonly the productivity is acceptable. Much like in the case of subcontractors, another Project Manager at Contractor Inc. further explains that the disadvantages with primarily international staffing agencies can be that the balance between being productive and working safely can make the workers take unnecessary risks because they want to reach their productivity goals. Based on this, it is assumed that using staffing agencies is flexible, which is suggested to be suitable for Contractor Inc., since the project-based environment requests it. The flexibility with staffing agencies is both beneficial and creates competitive advantages in a complex environment like the construction industry.

When hiring persons that have no experience from working with Contractor Inc. before, the process to learn the company specific modes of operation can be time-consuming, an Operational Manager says. Similarly, a Category Manager at Contractor Inc. states that *“it is always a journey when a new person starts working with us, and it takes time for that person to learn the modes of operation as well as working in line with the code of conduct and values we live after”*. Further, it is Contractor Inc.'s responsibility to ensure that the workers from staffing agencies have the right workwear, safety equipment and tools. Thus, it is essential to consider the total cost of hiring individuals from staffing agencies since there are incremental costs for all equipment they require to perform their tasks and salaries. Occasionally additional team leaders may be required on a construction site when working with individuals from staffing agencies. This implies that Contractor Inc. is conscious about the price for flexibility. Also, there is a possibility that Contractor Inc. exposes itself to risks when working with external workers. However, the individuals from staffing agencies normally do their job and

follow orders from the team leaders at the production site. When Contractor Inc. hires personnel from staffing agencies, they are explicit regarding expectations to avoid misunderstanding between the workers from the staffing agency and the workers from Contractor Inc., later in the collaboration. Similarly, it can be denoted that it takes time for every new external worker coming to Contractor Inc. to learn the organisation's mode of operation and code of conduct. If Contractor Inc. implement a workforce pool, the workers in the pool would already be conscious about the ways to work and how to act.

Contractor Inc. tries to request workers that have worked with them before and workers that have made a positive impression and performance, an Operational Manager at Residential explains. Challenges with staffing agencies are that the main contractors do not know which workers they will get. Some workers employed by staffing agencies have limited work experience and they are often less valued than the internal personnel and employees from subcontractors, partly since they are there on a shorter term and partly because they might be replaced. Nevertheless, some of the workers from staffing agencies are skilled and productive and their contribution on a project at Contractor Inc. can lead to an employment there instead. This indicates that the advantages with staffing agencies can be that Contractor Inc. gets to work with new workers that might be hired by Contractor Inc. in the future if there is a demand for additional labour. Still, the risk of getting a worker that does not reach Contractor Inc.'s requirements must be considered. To hire personnel from staffing agencies might result in risks in form of additional costs or inadequate quality.

Moreover, a Human Resource Manager states that a staffing agency does not take any responsibilities for example warranties in the construction projects. The finished quality of the work on the project is often decent, especially since the individuals from staffing agencies often are included in teams with Contractor Inc.'s internal workers. Considering this, it is not favourable to use staffing agencies since they do not share risks and responsibilities with for example warranties. In contrast, subcontractors share the risks when working with Contractor Inc. and they are often productive and skilled in what they do. Therefore, from a risk-sharing and quality perspective, it is favourable to employ subcontractors before hiring personnel from staffing agencies.

#### 4.2.3 Advantages of an internal workforce pool

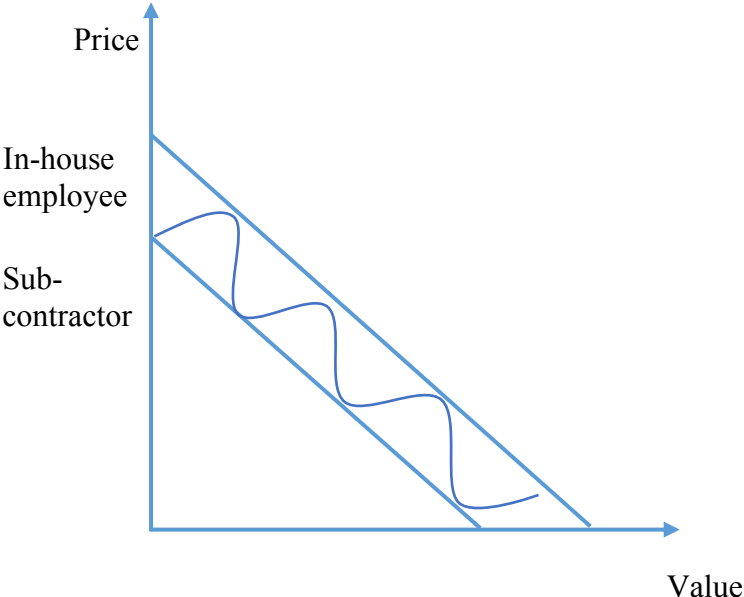
An Operational Manager at Civil describes that "*the trend of foreign labour is increasing and we are required to be more competitive in the construction industry*". Because the industry is being increasingly international, this is said to increase the numbers of construction companies on the Swedish market. The idea of an internal workforce pool is then suggested to be aligned with the increasingly international construction market, since the workforce pool will consist of foreign workers. The Operational Manager at Civil continues to explain that returning employees at Contractor Inc.'s projects would lead to that they learn the company specific code of conduct and security routines, among other things. Thereby, Contractor Inc. would save time in training the employees when they first arrive to a new project. Contractor Inc. competes with other large construction organisations to get the best subcontractors, which is why internal competences in an internal workforce pool would be advantageous. An internal workforce pool at Contractor Inc. could solve the issue with external employees not following security routines and code of conduct will probably be decreased.

Contractor Inc. could ensure that the working conditions in the workforce pool would be acceptable, according to an Operational Manager at Residential. The finished quality of the projects would be controlled, the time-frames and the costs would be held. By using persons

from the pool, the project planners in Contractor Inc.’s project would have time to focus on other activities than designation of personnel. Prerequisites for the employees in an internal pool must be that they enjoy working abroad in intense periods. They require to be motivated to perform this kind of work. Possibly, the salary when working in Sweden would appeal to the workers. Working abroad implies that there must be benefits for the individuals. However, not every individual would enjoy working abroad, which must be taken into consideration.

In the projects, both the internal workers at Contractor Inc. and the persons from an internal workforce pool can transfer knowledge. Contractor Inc. lack various competencies, and a Purchasing Manager states that *“in an internal workforce pool, these competencies could be found”*. A workforce pool could thus offer Contractor Inc. valuable capacity and competencies. Additionally, the internal control an internal pool would result in would strengthen Contractor Inc.’s competitiveness. Hence, it is suggested to implement an internal workforce pool, which would facilitate the availability of workers with the right competences and knowledge for Contractor Inc.

Individuals from an internal workforce pool would probably be more expensive than subcontractors and labour from staffing agencies, according to a Human Resource Manager. Consequently, it is crucial to communicate their additional value that would compensate the price by increasing Contractor Inc.’s internal control, knowledge, responsibility, commitment, capacity, efficiency, corporate culture, security working environment and their competitiveness against their competitors. Figure 6 shows the relationship between price and value, illustrating that even though in-house employees cost more, they generate additional value. This is because in-house employees know how to perform the work the Contractor Inc. way, which is, for example, building the demanded quality and act according to the code of conduct and security rules. This is, according to the interviewees, why Contractor Inc.’s in-house employees generate additional value compared to external personnel. Additionally, extra team leaders are not needed when using workers from an internal workforce pool, in contrast to when using subcontractors. This indicates that an internal workforce pool at Contractor Inc. could be beneficial from several points of view.



**Fig. 6** The figure shows the relationship between price and value, in-house employees do, according to employees Contractor Inc., generate more value than subcontractors

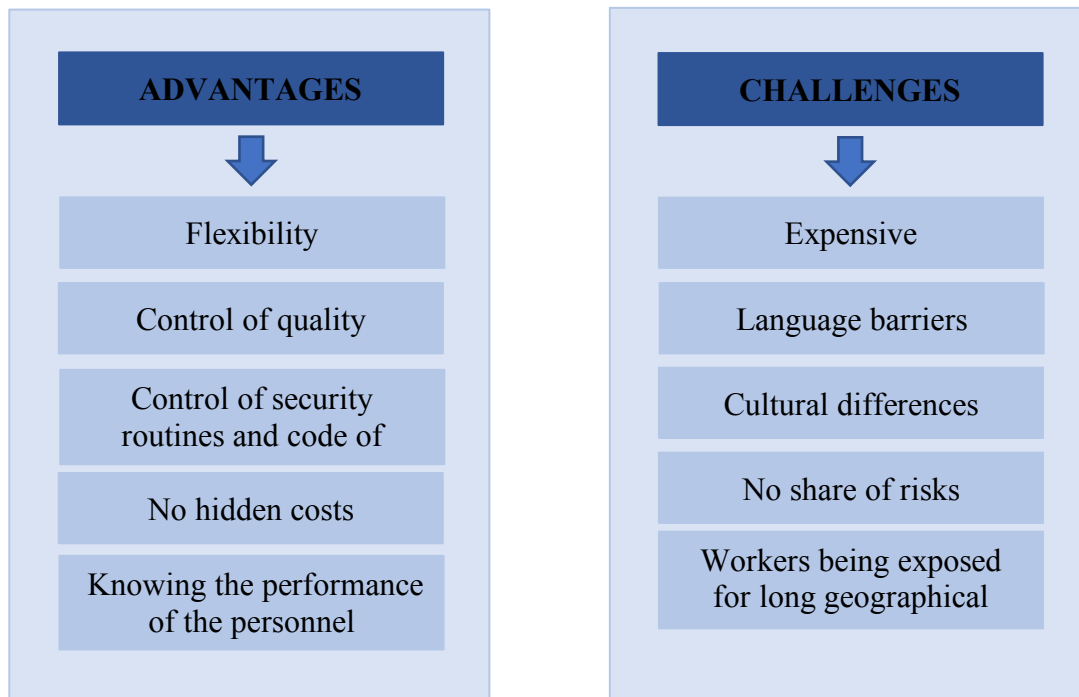


#### 4.2.4 Challenges with an internal workforce pool

*“The costs of a workforce pool must be considered, and the additional value the workers will have must be communicated and understood”*, says a Human Resource Manager. There is a risk that the project planners will not use the employees from the pool if they are too expensive in relation to subcontractors and personnel from staffing agencies. However, if a decision is made to start to work with an internal pool at Contractor Inc., the employees must be loyal to the decision, a Category Manager explains. The administration and structure of an internal pool must also be carefully examined, as well as the prioritising process in the pool must be planned in advance. It is important that the individuals in the pool are occupied in projects so they do not cause unnecessary costs. There will also be extra costs for travels from the native countries to the project country, as well as costs for accommodations and travel allowance. This implies that an implementation of an internal workforce pool requires careful planning and the employees’ loyalty to the decision. Even though planning of a workforce pool will be a challenge, the planning of personnel to projects are already an issue for Contractor Inc.

Ensuring that internal employees are loyal to the decision of using a workforce pool may however be difficult. According to a Project Manager at Residential, *“resistance to changes might occur in the beginning of a new mode of operation”*. The internal workers at Contractor Inc. might consider employees from an internal workforce pool as a threat and competition to their own employment, why it is central to communicate to the white-collar workers that this is not the case. Furthermore, the persons from a pool must be equally treated as internal workers in the projects. This would also help the unity in the teams when mixing the personnel. Taking this into account, it is a challenge to make the internal employees accepting new workers when they feel threatened. Again, it is crucial to communicate to all workers why a new mode of operation is implemented.

The persons working in an internal workforce pool will be exposed to long geographical distances from their native homes and families which can be seen as a drawback, a District Manager at Civil explains. At times the employees might be sent to a new project location on a short notice. Cultural clashes might happen such as different attitudes towards hierarchies, taking orders and common cleaning at the workplace. A Project Manager at Civil says that *“language barriers are always present in international working constellations, and the language barriers could be overcome with interpreters and the English language”*. It is denoted that issues will occur if implementing an internal workforce pool, and it would be all employees at Contractor Inc.’s responsibility to do their best for the workforce pool to be successful. For example, it is suggested that the Swedish employees are patient with foreign labour working with them, and helps them to feel welcome. Figure 7 shows a summary of the advantages and the challenges of an internal workforce pool.



**Fig. 7** Summary of the advantages and the challenges of an internal workforce pool

#### 4.2.5 Possible structure of an internal workforce pool

The interviewees at Contractor Inc. were asked to describe their individual opinion regarding the most preferable situation considering staffing projects. A Project Manager at Residential explains that the demand of different white-collar worker roles at Contractor Inc. include both blue-collar workers and white-collar workers. The Project Manager at Residential continues *“the blue-collar workers at Contractor Inc. is aging and the senior workers do not manage the heavier work tasks anymore”*. The interviewees state that on the blue-collar side concrete workers, iron workers, steelworkers, ground workers, carpenters, wood workers, asphalt pavers, pavers, floor dressers, machinists, and crane operators are in particular demand. According to the interviewees at Contractor Inc., the white-collar worker roles demanded at the white-collar side are team leaders, production managers, local managers, projection leaders, planning specialists, testing officers, logistics coordinators, BIM coordinators and diverse competencies within special construction, installation and social sustainability. That could suggest to start a pilot project with an internal workforce pool consisting of for example concrete workers, since there is a great demand for these kind of workers. Additionally, concrete workers are especially accessible in Eastern Europe. It can be concluded that Contractor Inc.’s workers tend to be distrustful to a workforce pool. Therefore, if a pilot project consisting of concrete workers are successfully implemented, the employees will hopefully use the pool for other positions as well.

The majority of the interviewees at Contractor Inc. believe that an internal workforce pool can include both blue-collar workers and white-collar workers. There would be less prerequisites and responsibilities for the blue-collar workers though, since it is not as essential with language and communication for them if they have a team leader they can communicate with. A white-collar worker in a workforce pool on the other hand, needs to be able to communicate on English or Swedish with the other white-collar workers at the building sites. Since it is suggested to start with a pilot project with for example blue-collar workers specialised in concrete, and if the pilot project are successful, other positions can be available in the internal pool too. Moreover, according to most of the interviewees at Contractor Inc., it is proposed that an internal pool can comprise of teams, or pairs, who are specialised in different building areas such as concrete,

roof or building foundations. A Regional Manager at Civil explains that *“it would be favourable if the teams have worked together before on the blue-collar side. An accompanying team leader to the different blue-collar teams would also be beneficial”*. Other interviewees think that also the white-collar can come to projects as individuals or pairs. It is suggested that a team leader would be preferable to decrease language barriers.

The majority of the interviewees agreed that their current strategy regarding occupying their own internal employees firstly before employing others is a desirable situation. When the internal employees are not enough, some interviewees thought that people from an internal workforce pool would be the second option, while some thought that subcontractors should be prioritised. However, all interviewees that were supportive of an internal workforce pool shared the view that employees from staffing agencies would be the last alternative when staffing projects, if there are no workers to obtain from internal resources, an internal pool or from subcontractors. Some interviewees believed that subcontractors are a better alternative than labour from an internal pool and one interviewee explains that *“since the subcontractors are specified in their working fields, they share risks, and they work effectively”*. Even if employees from an internal pool were available, they would probably not be able to perform all specialised work that subcontractors can. Moreover, in smaller projects it would not be cost-effective to use personnel from an internal pool, and there would subcontractors be a better option. Considering these diverse points of view, Contractor Inc. should use the internal employees first, as this is agreed upon all interviewees. Then, the personnel from an internal pool could be employed, as this would be in line with the organisation’s strategy to use their own internal workers in their projects. If these persons can be planned in advance as well as being able to come to a project on a short notice it would be beneficial for Contractor Inc. The main concerns according to the interviewees seems to be what actions should be made if there are too many workers in the pool and the construction industry enters into a recession.

According to the interviewees, the decision about if an internal workforce pool should be implemented must be taken at the highest level at Contractor Inc. in Sweden. Most importantly, an Operational Manager at Residential concludes that *“the decision must be anchored in the organisation to be practiced”*. The decision about the implementation of a workforce pool is a strategic decision and therefore it should be taken by top management. The interviewees suggest that the regional managers together with the corporate management should make the decision. The regional managers will get insights from the district managers who communicates with the project managers which in turn communicate with the operational workers. Still, it is the employees in the projects that need to understand and accept the new way to work, for the workforce pool to be successful. Most importantly, for the workforce pool to be successful, the whole organisation must agree upon the new mode of operation and when the top-management take the decision, everyone must be committed to the decision.

## 5. Discussion

This chapter presents a discussion of the findings in relation to the theoretical framework and previous research within the field of strategic purchasing of manpower. The covered areas discussed in this chapter are strategy when appointing personnel to projects, differences between planning white-collar workers and blue-collar workers, the clients' wishes for workers, internal motivation, crucial factors in construction projects, subcontractors and staffing agencies, and finally, advantages and challenges with an internal workforce pool.

### 5.1 Strategy when appointing personnel to projects

As described by Clegg et al. (2016), an organisation's strategy should describe what differ the company from other businesses and what they are doing. Contractor Inc. has a stated strategy to use own employees as far as possible, supplemented by subcontractors and personnel from staffing agencies in projects when needed. In-house employees should be equivalent to eighty percent of the total demand in order to not risk having to many employees, but the percentage is currently lower. This indicates that Contractor Inc. is not following the strategy completely, and thus, it may be difficult to realise the aim of the organisation. Further, Clegg et al. (2016) explain that the strategy should be explicit to everyone involved in the business in order to realise the aim of the organisation. Several employees interviewed at Contractor Inc. explained that they do not follow any explicit strategy when appointing personnel to projects. For example, if someone prefers to use subcontractors for a complete project, this is accepted, which also indicates that the strategy is not followed. However, nearly all employees interviewed considered that in-house employees should be occupied first. To be able to succeed with the strategy, Clegg et al (2016) recommend that managers should have control of the organisation, and thus, it is Contractor Inc.'s managers' responsibility to convey and convince the strategy to the employees.

Maylor (2010) describes the importance of focusing the strategy on areas where the organisation decides to be successful. Today's situation in the Swedish construction market makes it difficult to have around 80 percent in-house employees, and consequently it is hard for Contractor Inc. to reach the strategy. Further, Ekeskär and Rudberg (2016) explain the construction environment as challenging because of the complex supply chain in the construction industry, which also aggravate the situation for Contractor Inc. when appointing personnel to projects, since it is difficult to know exactly when workers are available. In addition, Maylor (2010) describes projects as having aspects of uniqueness, meaning that a new project has some degree of novelty. This means that unforeseen events may happen, and delaying of ongoing projects and workers may occur, and therefore, workers might be occupied for a longer time than expected, which also aggravate the planning process.

Traditionally, strategies were implemented from the top down, but, this has changed and the strategy is nowadays often implemented with input from all levels in the organisation (Maylor, 2010). It is suggested that the decision about an internal workforce pool should be made at the highest level at Contractor Inc. in Sweden. However, several interviewees highlighted that the decision must be anchored in the organisation, and input from all parts of the organisations is needed for the top management to make such a decision.

Moreover, Clegg et al. (2016) claim that the human resource department should help finding suitable personnel for an organisation and for projects, and Cassidy and Kreitner (2011) add that human resource management should also make assessment and development of workers. In well managed organisations, the human resource department are enclosed in the company strategy, and thus, it is recommended that the human resource department at Contractor Inc.

should be a part of the company strategy. Using workers from the human resource department is proposed to facilitate the planning of personnel to projects, since they are experts in the field of employees. In addition, Cascio (2003) state the importance of including workforce planning in the business plan, especially in an uncertain environment like the construction industry, to reduce risks. When conducting workforce planning, it is suggested to consider internal and external constraints, deciding what to do in the short run and prepare for long-term needs, checking that the workers in the projects act correctly, and decide how to develop workers (Cascio, 2003). If an employee that is not employed for hiring or purchasing of personnel manage the hiring and purchasing procedure, there is a risk that some or all factors to be aware of is forgotten, and therefore, it is suggested that someone with knowledge about workforce planning should manage the purchasing process and the hiring process. Further, Cillie-Schmidt (2012) explains that the globalisation has led to that workers increasingly have chosen to work away from their home country, which is no exception for Contractor Inc. The increasing number of international workers requires additional knowledge about the legislation of foreign workers, and this is an additional reason to why the human resource department is suggested to manage the appointing of workers to projects.

### 5.2 Differences between planning white-collar workers and blue-collar workers

Hallin and Karrbom Gustavsson (2012) explain that when activities in projects are determined, it is essential to plan which employees that will perform which activity. This is consistent with how Contractor Inc. plans white-collar workers, and they are planned based on competence. By contrast, Contractor Inc. does not plan blue-collar workers based on individuals, which can be a problem since a large part of Contractor Inc.'s white-collar workers are young, and hence, have limited experience. Inexperienced white-collar workers require experienced blue-collar workers, and thus, it is suggested that also blue-collar workers should be planned increasingly on an individual level.

As mentioned before, the complex environment makes the planning process complicated (Cascio, 2003), however, Tonnquist (2012) explains that even though project planning is time consuming, it is worth it in the end, and it saves time in the execution process. Also, an Operational Manager at Contractor Inc. emphasised the importance of doing right in the beginning to save time and stick to the project budget. This indicates that the employees at Contractor Inc. already are aware of the importance of planning.

### 5.3 The clients' wishes for workers

Van Weele (2015) explains that companies are increasingly outsourcing their non-core activities to other actors in order to maintain or develop their competitive advantages. In addition, labour outsourcing is when some employees come from subcontractors or staffing agencies, and works either together with internal employees or by themselves. New influences are reflected as being a source to competitive advantages by developing the internal knowledge and expertise. It happens that Contractor Inc. uses labour outsourcing in projects, example if they do not have the competence available in-house, if another company is cheaper, or if they want a subcontractor with expertise in the specific work area to perform the work. Purchasing of subcontractors with expertise in specialised areas, indicates that Contractor Inc. has chosen to focus on their core competencies, and therefore, outsources non-core activities to other actors. One operation normally being outsourced at Contractor Inc. is sections of concrete work. Concrete work is often outsourced to foreign actors, partly because of Contractor Inc.'s limited availability of concrete workers in-house and in Sweden, and partly because of the lower price. These are, according to Van Weele (2015), two reasons to why companies choose to outsource parts of their business.

Van Weele (2015) discuss critical success factors to take into consideration when outsourcing services or activities, for example the importance of understanding the main contractor's goals and objectives. At Contractor Inc., it is a requirement that the employees working for a subcontractor or staffing agency follow Contractor Inc.'s rules, as for example code of conduct, safety routines, and acting ethically correct. In addition, making the subcontractors and employees from staffing agencies aware of Contractor Inc.'s requirements are a constantly ongoing work, and interviewees explained that even clients have started to request subcontractors and staffing agencies that act correctly. It is clear that Contractor Inc. spend a lot of time, and consequently also money, on ensuring that subcontractors and personnel from staffing agencies act the way Contractor Inc. prefers. This is in line with Van Weele's (2015) statement, that the importance of understanding the main contractor's goals and objectives are crucial. However, if Contractor Inc. starts to work with several different new actors, it is suggested that the education needed for these new actors may result in hidden cost, since Contractor Inc. often need to educate new actors more than once.

Further, it happens that Contractor Inc.'s clients ask for a special kind of workforce to be used, for example if they have a relationship to another company or if they want to favour the local municipality with local workforce. By contrast, some clients request a low price, and therefore, these clients favour competition between actors. According to Konkurrensverket (2018), competition is important for both clients and the actors in the market, since competition increase the productivity and efficiency of companies, increase the quality of products and services, and generates better prices for the clients. The advantages of competition will be lost with an external workforce pool, which needs to be considered when evaluating if a workforce pool should be implemented or not.

#### 5.4 Internal motivation

A Regional Manager at Civil explained that creating team-spirit and making the workers motivated are crucial and adds that the business unit Civil is working constantly with this through, for example, making everyone aware of their importance, for the company to succeed. According to Cassidy and Kreitner (2011), employees' motivation can be measured from the level of engagement, satisfaction, commitment and intention to quit. Since the interviewees at Contractor Inc. experience workers at Civil to be more motivated to work than workers at Residential, it can be concluded that the business unit Civil works more with engagement of employees. However, the different business situations must also be considered, and may be another factor for the difference between the two business units. For example, Cassidy and Kreitner (2011) discuss that characteristics of work tasks and responsibilities also lead to a certain level of motivation for employees. The Regional Manager explained that the blue-collar workers at Civil usually work in smaller projects, and thus, they get varied work tasks and additional responsibilities, giving them motivation and increased team-spirit.

The construction market is being increasingly globalised (Han et al., 2015), and Swedish construction companies are hiring foreign workers to a larger extent (Thörnqvist and Bernhardsson, 2015). It is concluded that some employees enjoy working abroad, and some do not. Hence, it is important for the motivation that only individuals that enjoy working abroad will be in an internal workforce pool at Contractor Inc. Additionally, Siew (2014) discuss that recruiting internally may work as motivation for employees in an organisation. At Contractor Inc., the workers in a proposed internal workforce pool would get to see other parts of the organisation by working for the internal pool.

However, international recruitment is a challenge for numerous international companies. For example, filling all positions in their organisations can be challenging (Kang and Shen, 2013). Sparrow (2007) concludes that international companies need to understand the influences of global markets and the requirement of global competence. It is reflected that an implementation of an internal workforce pool would favour both overall availability of internal and international workers, and the global competencies could be used to a larger extent in Contractor Inc.'s projects.

### 5.5 Crucial factors in construction projects

Dubois and Gadde (2002) describe the complexity of the construction industry as a reason for the low performance and the inefficient operations that characterise the industry. The general opinion among the interviewees at Contractor Inc. was that their own blue-collar employees are less productive than subcontractors, and the interviewees suggested that this was because of that not every worker was willing to produce their best or willing to work with continuous improvements. Further, the interviewees explained that they consider that working constantly with continuous improvements makes Contractor Inc. increasingly productive. Although the projects at Contractor Inc. are already productive, the interviewees suggest that they can always be more productive. Park et al. (2005) suggest a formula (see figure 1) to be used in order to state the labour productivity. It is suggested that Contractor Inc. should use this formula in order to measure and compare the different workers' and projects' productivity.

Furthermore, Cassidy and Kreitner (2011) define total quality management as building an organisational culture dedicated to teamwork, continuous improvements, customer satisfaction, product quality, and service quality. For Contractor Inc., it is crucial to build the demanded quality and make the customer satisfied, and interviewees explained that Contractor Inc. is working increasingly with continuous improvements. However, even though some of the interviewees explained the teamwork as successful, others described that there are still a lot to do in order for all teams to feel team-spirit. This indicates that Contractor Inc. should work increasingly with teamwork in order to achieve total quality management in the organisation.

In addition, the interviewees were asked to decide if they consider cost, time, or quality as the most important for Contractor Inc.'s projects. Yuan et al. (2018) explain cost, time, and quality as the main challenges to overcome in the construction sector in order for companies in the sector to be more effective. If Contractor Inc. chose to implement a workforce pool, it is necessary that the workers in the pool understand the importance of cost, time, and quality of Contractor Inc.'s projects as well as what it means when one of them is in focus.

Interviewees that chose quality as the most important argued that delivering demanded quality will generate economic advantages for a long-term perspective, but that this requires planning in order to not exceed costs or time. In addition, they explained that inadequate quality will not generate any clients in the long-run. Bergman and Klefsjö (2012) explain that improved quality will generate, for example, satisfied customers that will come back, increased productivity, a better position on the market, and decreased adoption costs, which are all in line with the opinions from interviewees choosing quality as most important. However, even though the literature indicates quality as the most important factor, it is suggested that Contractor Inc. should focus on time. Focusing on time will facilitate the planning process, securing that clients can start their own work on time, and ensure that costs are not increased due to a longer project execution than planned from the beginning. Cassidy and Kreitner (2011) explain that internal customers need the work to be done in order to be able to complete their own work, which supports the importance of time. Furthermore, Panibratov and Larionov (2015) state that time

is an important factor to consider in order to increase the efficiency of a project. Increased efficiency requires high labour productivity, and therefore, focusing on time is suggested to be an incentive for Contractor Inc. to be increasingly efficient and for the workers to be more productive. Finally, focusing on time is also considered to have positive effects on costs, since projects that exceed the time limit will also increase the costs.

### 5.6 Subcontractors and staffing agencies

According to Harris and McCaffer (2001) and Behera et al. (2015), many main contractors in the construction industry use subcontractors to reduce their workload without needing to hire additional internal workers. At Contractor Inc., the main perception is that the use of subcontractors in the projects contribute to competitive advantages. It is also emphasised in the findings that the risk-sharing is favourable for Contractor Inc., and the use subcontractors create increased capacity in the projects (Hartmann and Caerteling, 2010; Fellini et al., 2007). The productivity among subcontractors are high according to the interviewees at Contractor Inc., which can be related to the fact that most subcontractors are niched to perform some specific operations in a work area (Lindahl, 1996; Cheng and Wu, 2012). Errasti et al. (2009) explain that subcontractors require to deliver the right quality, service and costs, and meet contractual obligations, meaning that their value creation is crucial for them to survive on the construction market. Even though subcontractors perform the work correctly to an acceptable price, the majority of the employees at Contractor Inc. prefer their own internal workers.

When a main contractor collaborates with for example subcontractors or staffing agencies (Van Weele, 2015; Svensson et al., 2015), the interactions across different cultures require understanding among the workers in the international organisation (Lambert et al., 2000; Dong and Liu, 2010). At Contractor Inc., the cultural differences are prominent among foreign workers. Sometimes the national and foreign external workers lack security-thinking, and in addition, the building quality is also negatively affected due to that the work is hastily performed.

According to Humphreys et al. (2003), labour from subcontractors can generate cost savings, and it is concluded that the subcontractors can be a cheaper alternative for Contractor Inc. However, additional costs for interpretations and education in security and the organisation's code of conduct should be considered too, when hiring labour from subcontractors or staffing agencies. In addition, hiring workers from staffing agencies are considered as adding flexibility to organisations in staff peaks (Håkansson et al., 2013; Kantelius, 2012; Johnson, 2010), which strengthens the findings regarding that Contractor Inc. use staffing agencies because they are flexible and because they sometimes lack enough internal workers when they are going to execute a project. However, staffing agencies are not sharing risks with Contractor Inc. as subcontractors do, which is a common argument from the interviewees, why subcontractors are preferred before staffing agencies.

Kantelius (2012) further explain the disadvantages for the workers employed by a staffing agency, since they have an uncertain working environment. This is a factor also questioning an internal workforce pool at Contractor Inc. since the workers there could be moved from one project to another on a short notice, and probably geographically long away from their hometown. Kantelius (2012) also discuss the fact that there is a risk that individuals working for staffing agencies might lack competencies since they are constantly changing workplace, which could affect the quality of the work carried out by staffing agencies. Some interviewees at Contractor Inc. thought that persons from staffing agencies generally delivered an



unacceptable quality, while other interviewees believed that the performance is unrelated to if the persons were hired by a staffing agency, a subcontractor or Contractor Inc.

### 5.7 Advantages and challenges with an internal workforce pool

Working with internal employees has advantages such as full control of the work and insight of costs (Van Weele, 2015), and the interviewees describe these benefits as favourable for the interviewees at Contractor Inc. There would be no hidden costs, and Contractor Inc. would control that the workers had acceptable working conditions. An internal workforce pool can also create greater flexibility (Håkansson et al., 2013), which can be compared to the flexibility with staffing agencies. Furthermore, Cascio (2003) highlight the business strategies for how to manage workforce planning on a short-term and long-term considering for example training and development. One of the most prominent benefits with an internal workforce pool is that the workers would already have the right training and mode of operation regarding security, code of conduct and the accepted end-quality.

Cillie-Schmidt (2012) state that workforce planning means that an organisation has the right personnel, with the right competences, in the right place and time, is crucial to reach organisational success. With an internal workforce pool, Contractor Inc. could ensure that the right competences needed are in the pool. Additionally, knowledge can be transferred to a larger extent within the global organisation of Contractor Inc. with an internal workforce pool. However, according to the interviewees, there is concern for the workforce planning aspect of running an internal pool. Some employees at Contractor Inc. think that the coordination and administration with an internal workforce pool will be a huge challenge.

Although the costs of internal employees seem to be more expensive on paper, because there would be additional costs for accommodation and trips to different projects for the workers, there would be no hidden costs with internal workers (Van Weele, 2015). It is reflected upon the added value that internal workers have, in contrast to external workers. These added values such as ensuring security, quality and control, would also make up for the price, according to several interviewees at Contractor Inc.

Still, the challenges with an internal workforce pool are notable. Kantelius (2012) explains that it is a disadvantage for workers in a staffing agency with an uncertain working environment, which is directly applicable at individuals in a workforce pool. The geographical distances for the workers and the notable different projects they would be put in might not be a desirable working environment for every person. In addition, language barriers in global organisations will be present when working with international employees (Griffin and Pustay, 1999; Hurn, 2007), which is another challenge for Contractor Inc. to overcome if an internal workforce pool should be implemented.

Competition is desirable for organisations to become more efficient and productive, and for clients since the prices they pay will be exposed to competition (Konkurrensverket, 2018). The benefits with competition would be partly lost if an internal workforce pool was implemented, due to the increased use of internal workers, and less use of for example subcontractors and personnel from staffing agencies. Hartmann and Caerteling (2010) explain that companies in the construction industry are facing a fluctuating and unpredictable demand, since their production must be adapted to the specific clients' requirements. This makes them uncertain about the future work and the utilisation of their employees, so the fluctuations in the construction market might be an issue for an internal workforce pool. Hence, there must be a

plan for what to do if Contractor Inc. has unoccupied workers in the pool, to avoid unnecessary costs.

Normally, there is resistance to change among employees, which often are influenced by the available information about the changes (Grama and Todericiu, 2016). An implementation of an internal workforce pool would be a new mode of operation, and thus, the decision is assumed to meet resistance from the internal workers. To overcome this barrier, it is discussed that it is crucial to communicate why an internal workforce pool would be favourable for Contractor Inc. Furthermore, Cassidy and Kreitner (2011) explain that a stimulating work environment with trust and teamwork will result in loyal employees. However, even if an employee enjoys the work, he or she might not be loyal to new decisions made in the organisation. Therefore, it is crucial to communicate the decision to all employees and make them understand why this is a beneficial mode of operation for Contractor Inc. Table 2 shows interviewees perceptions of different pros and cons with different workforce solutions.

	<b>Subcontractors</b>	<b>Staffing agencies</b>	<b>Workforce pool</b>	<b>Internal workers</b>
<b>Flexibility</b>				
<b>Control of quality</b>				
<b>Code of conduct</b>				
<b>Security</b>				
<b>Low price</b>				
<b>Value</b>				
<b>Risk sharing</b>				
<b>Language barriers</b>				
<b>Cultural differences</b>				
<b>Geographical distance</b>				

■ Agree to a large extent ■ Agree □ Do not agree

**Table 2** The interviewees’ perceptions of pros and cons with different workforce solutions

## 6. Concluding remarks

This chapter starts with a summation of the key conclusions made and how they relate to the research questions. Moreover, recommendations directed at Contractor Inc. regarding a suggested implementation of an internal workforce pool are presented. Finally, suggestions for future research within the field of strategic purchasing of manpower are outlined.

### 6.1 Conclusions

In general, Contractor Inc. need to develop and improve their planning process of appointing personnel to projects. Contractor Inc.'s strategic purchasing of manpower is not explicit throughout the whole organisation, which is an issue since the organisation does not strive to develop in the same direction. Currently, the available internal blue-collar workers and white-collar workers are not enough, why Contractor Inc. hires external personnel from subcontractors and staffing agencies. However, the mode of operation when purchasing external personnel is different at the various business units and departments, resulting in that the employees participating in project planning do as they like.

Hence, it is recommended that Contractor Inc. should implement a new concept to meet their staffing needs. The new suggested new mode of operation is an internal workforce pool, located in an Eastern European country, consisting of foreign internal blue-collar workers and white-collar workers. An implementation of an internal workforce pool will be a challenge as every new mode of operation in an organisation. Nevertheless, an internal workforce pool is assumed to simplify the staffing planning process for Contractor Inc.

The workers in an internal workforce pool would be educated in Contractor Inc.'s security routines and code of conduct, which would enable control over the foreign workers and ensure that they act in line with Contractor Inc.'s native internal workers. Contractor Inc. would also achieve extended control over the quality of the work carried out. In addition, the flexibility when planning workforce to projects would be higher since the available workers in the pool could supplement the internal workers before hiring external workers from subcontractors or staffing agencies. The added value of internal workers and the belief that the workers in an internal workforce pool would conduct the work tasks correctly would also be beneficial, even though the price of the workers might be higher than subcontractors or staffing agencies on paper. Thus, there would be no hidden costs for the internal workers in the pool. In comparison, external workers might generate additional costs if they do not deliver the demanded quality.

However, some critical success factors for the recommended implementation of an internal workforce pool need to be addressed. There is commonly resistance to organisational change among employees at companies, which is why the new concept and way of working must be communicated and understood by all employees involved. In addition, it is important that the employees stay loyal to the decision about a new mode of operation. Therefore, the top management is suggested to make the decision based on the business units' and departments' suggestions and opinions, since they are the ones executing the projects and the planning of manpower. The next subchapter will present concluding recommendations for the proposed implementation of an internal workforce pool at Contractor Inc.

### 6.2 Recommendations

A new strategy for strategic purchasing of manpower is recommended for Contractor Inc., and it is suggested to implement an internal workforce pool as a new mode of operation facilitating planning and appointing personnel to projects. A prerequisite for the implementation to be

successful is that the employees working at Contractor Inc. are loyal to the decision and use the workers from the internal workforce pool to supplement the native internal workforce, before hiring personnel from subcontractors or staffing agencies.

Recommendations regarding an internal workforce pool are the following:

- ❑ The implementation of an internal workforce pool at Contractor Inc. is assumed to be challenging due to resistance to change among employees and because it is a completely new mode of operation. Therefore, it is recommended to start with a pilot project with concrete workers. There is a large demand for concrete workers at Contractor Inc. throughout the whole of Sweden and it is a work task currently outsourced to a large extent. Thus, it is assumed to be the easiest craft to try in a pilot project.
- ❑ If the pilot project is successful, it is more likely for the employees to accept the new concept with an internal workforce pool, and other construction areas can be introduced in the pool as well. Suggested blue-collar workers, besides concrete workers are for example iron workers, steelworkers, ground workers, carpenters, wood workers, asphalt pavers, pavers, floor dressers, machinists, and crane operators.
- ❑ Further, if the pilot project is successful, it is proposed that white-collar workers can be sourced from the internal workforce pool as well. Suggested white-collar worker roles are for example team leaders, production managers, local managers, projection leaders, planning specialists, testing officers, logistics coordinators, BIM coordinators, and diverse competencies within special construction, installation and social sustainability.
- ❑ An internal workforce pool at Contractor Inc. would appropriately be located in an Eastern European country, where there are available skilled workers who are motivated to come to Sweden to work. In this study, Poland is a recommended location since it is quite close to Sweden, see figure 8, and because the blue-collar workers in Poland are skilled and specified in demanded construction areas. Additionally, Poland is one of Contractor Inc.'s home-markets, which favour the suggestion of a workforce pool in Poland.
- ❑ Furthermore, it is suggested that the internal workforce pool could be used by all business units at Contractor Inc. that have a demand for additional labour.



**Fig. 8** Location of Sweden and Poland

Overall, it is recommended that the employees managing purchasing of external personnel such as subcontractors and staffing agencies are individuals with knowledge about juridical entities such as collective agreements and laws regarding foreign manpower.

Additionally, it is assumed that the new concept with an internal workforce pool will take time to be accepted in Contractor Inc.'s organisation. Nevertheless, it cannot be known if the new suggested mode of operation is advantageous or not until it is tested in reality.

Finally, if Contractor Inc. decides that an internal workforce pool is not beneficial for their organisation, it is still recommended that they should extend their cooperation with their Poland office. A closer collaboration between Contractor Inc. in Sweden and Poland could strengthen the competitive advantages overall in the corporate group. If an internal workforce pool is not successful, the skilled workers in Eastern Europe hired by Contractor Inc. in Poland can be used in Contractor Inc.'s Swedish projects too, but as subcontractors instead. This would result in that the various competencies demanded would still be found within the corporate group, and that a closer collaboration between the Swedish and Poland offices would generate additional competitive advantages within the global Contractor Inc.

### 6.3 Future research

During the progress of this case study research, some additional issues regarding an internal workforce pool was identified. The construction industry is characterised as a sector with high business activity, however, it is not known for how long time the construction boom will continue. Taking a long-term perspective, there should thus be a plan for what to do with the individuals in the internal workforce pool if the construction industry enters into a recession, which is not investigated in this study.

In addition, labour unions have a large influence in the construction industry. Labour unions care for the employees' working situation, and they are assumed to potentially not favour an internal workforce pool, since the workers would be exposed to geographical distance from

their home countries and the constantly changing projects and construction sites. The potential issues with resistance from labour unions are not reviewed in this case study research, and therefore, these issues are suggested as future research within the field of an internal workforce pool.

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# Appendix

## A. Interview questions

### General questions and current strategy

1. Describe your work position and what your work tasks are?
2. What does the current strategy look like in your region regarding staffing of personnel to projects?
  - a. Is there any difference when you plan blue-collars and white-collars?
  - b. Which white-collar worker roles are most in demand?
  - c. How is the decision taken considering if Contractor Inc.'s internal employees are enough? And how is the decision taken considering if you need subcontractors and/or workers from staffing agencies?
3. Do you notice any difference between using Contractor Inc.'s own employees compared to personnel from subcontractors or staffing agencies? If so, describe the differences?
4. Does the client have any wishes about the form of labour you are going to use in their projects?
5. When you lack workers during a project, but you are still proceeding with the building, how do you solve that? How do you finish projects on time if you lack workers?
6. What is the difficulty in the current situation when assessing the staffing resource planning?
7. How do you plan and manage projects towards established financial goals?
8. Do you consider that cost awareness, being finished within the time frame of the project or the finished quality is the most important factor in Contractor Inc.'s projects?
9. Do you consider Contractor Inc.'s projects as productive?
  - a. What can you do better?
  - b. How do you work to be better?
10. How do you believe that an employee creates value for Contractor Inc.?
  - a. Do you think that the employees create value for Contractor Inc. or what can be better?

### Internal workforce pool

1. What advantages do you see with an internal workforce pool?
2. What challenges do you see with an internal workforce pool?
3. Do you think that an internal workforce pool should comprise both blue-collars and white-collars? Or just one of them?
  - a. What skills are required for blue-collars?
  - b. What skills are required for white-collars?
4. What level at Contractor Inc. must be included in the decision to make it anchored in the organisation?
5. How should an internal workforce pool be structured?
6. Do you believe that workers from an internal workforce pool creates more value to Contractor Inc. compared with working as a subcontractor or as a consultant from a staffing agency?

7. Do you think that there are any advantages for an individual working in a workforce pool for Contractor Inc.? If yes, which advantages?

### Subcontractors

1. What are your experiences with subcontractors?
2. Do you think there will be any difference between the results if a project is carried out by subcontractors compared to Contractor Inc.'s internal workers?
3. Is it difficult to clarify the limitations of responsibilities between Contractor Inc. and subcontractors?
  - a. Is there any difference between Swedish and foreign subcontractors?
4. Is it difficult to get the workers to follow Contractor Inc.'s values?
5. Do you think that the motivation and engagement among Contractor Inc.'s own blue-collar workers differ from the motivation and engagement among subcontractors?

### Staffing agencies

1. What are your experiences with personnel from staffing agencies?
2. Do you think there will be any difference between the results if a project is carried out by personnel from staffing agencies compared to Contractor Inc.'s internal workers?
3. Is it difficult to clarify the limitations of responsibilities between Contractor Inc. and personnel from staffing agencies?
  - a. Is there any difference between Swedish and foreign staffing agencies?
4. Is it difficult to get the workers to follow Contractor Inc.'s values?
5. Do you think that the motivation and engagement among Contractor Inc.'s own blue-collar workers differ from the motivation and engagement among staffing agencies?

### Concluding questions

1. If you had to decide, how do you suggest that the resource allocation to a construction project would look like?
  - a. Internal workers employed by Contractor Inc. Sweden,
  - b. Subcontractors,
  - c. Staffing agencies,
  - d. Internal workforce pool,
  - e. Or a combination?
2. If you think that a workforce pool should be a part of the resource allocation, do you think that the pool would be prioritized before subcontractors and staffing agencies or equivalent to them?

### Role-specific questions

#### Category Manager

1. How many blue-collar workers do you hire through staffing agencies each year?
2. How many subcontractors do you contract each year?
3. How many white-collar workers do you hire each year?
4. How does the process look like when you are hiring external workers?
5. If looking at Contractor Inc. Nordic, is the demand evenly distributed throughout the year so that a workforce pool would be possible?

### Blue-Collar Coordinator

1. How do you find out the need of workers to projects? How do you know if you have surplus or shortage of workers?
2. How do you choose right workers or projects? How do you estimate the workers' knowledges and skills?
3. Do you think that the method for resource allocation to projects work well?
  - a. Why/why not?
  - b. Can you explain how it works?

### Human Resource Manager

1. In order to be effective, what do you suggest as the best possible way of doing resource allocation?
  - a. Is it the project, district, or region that own the decision?
2. Which factors influence the choice of workforce?