

# An Overview of the Business Approach and Labor Costs in the Construction Industry. Case Study: Romania’s Counties by the Sea

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## Abstract

*The context of construction reflects the complexity of technological advancements, industrial modelling and simulation, intertwined by the need for economic attention. The current paper captures the evolution of businesses and labor indicators in the construction industry of Romanian companies in the seaside region and determines a series of illustrated trends of the labor cost in the principal subsectors specific to construction engineering domain. By combining case study observation and quantitative analysis methods, we could express in suggestive figures the diverse, divergent and compelling business context in the construction industry of Romania’s two counties by the sea, Constanta and Tulcea. The dichotomic issues found during our study provide insights into the complex competition, business approach and labor costs in the construction context. The motivation for research and need to disseminate managerial knowledge derives from the impetus to enhance productivity and support for the economic development strategies in Eastern Europe.*

**Key words:** construction industry, labor costs, employment, business approach

**J.E.L. classification:** L74, M21, M52, O10, P52

## 1. Introduction

The construction industry plays an important role in the national economy (Abudayyah et.al., 2000, p.170), by bringing significant contribution to the gross domestic product or by creating infrastructure to support other businesses.

The research efforts in the construction industry have undertaken different directions of analysis over time, given the complexity of the domain. The state of knowledge and research reviews were concerned with engineering education and theory development (Hynes et.al., 2017, p.453), the design and business projects management (Ekbiyikh and Eaton, 2011, p.330), quality management programs and value systems that may be better applicable to the complexity of the construction industry (Sullivan, 2011, p.216). The financial and empirical economic approach on the construction industry in Central Eastern Europe supports the need of extensive research.

The current paper captures an overview of the complex, divergent and challenging context of the construction industry of the two counties from Romania located by the sea, Constanta and Tulcea. In the first part of the study we present a review of evocative literature, then the case study methodology is described followed by the considerations on the findings and the conclusions drawn.

## 2. Literature review

The economic approach on construction examined the practitioners’ understanding of value and the contribution of the value theory to financial performance (Thomson et al., 2013), with active interest in building information modelling (BIM) (Aranda-Mena et.al, 2013, p.420) that may induce positive return on investment, cost management improvement and competitiveness improvement to the construction industry (Chan et al., 2019). Considering the inflections that the transition period following the fall of communism (Hlavacek et al., 2016), the role that good housing conditions

(Dekker et al., 2005, p.13) and reasonable costs had on urbanization (Ouředníček, 2016, p.545), researchers became concerned with the rehabilitation and development challenges of housing estates (Nedučín et al., 2019, p.1853) and profitability of companies (Aivaz, 2018a and 2018b) (Popovici and Moraru, 2017) in Central and Eastern Europe.

Various directions were investigated in the construction sector, but little has been said on the economic review of construction business in Eastern Europe. This paper provides insights into the complex competition, business approach and employment costs of companies acting in the construction sector of Romania’s Black Sea region, that may be of valuable interest to researchers and to business practice.

### 3. Research methodology

This paper analyzes the case study of companies operating in the field of construction in the two counties by Romania’s seaside, Constanta and Tulcea. By quantitative processing of statistical data and observation, we created imaging perspectives of the results. The graphical method allows comparative analyzes, perception of progression and trends of the analyzed indicators. The focus was set on the predilection for operational sectors in the construction industry, based on the analysis of a large number of specific businesses. The investigation was also conducted on the trends of labor indicators, by observing the evolution and concentration of employees and salary costs in the different construction activities.

According to Romanian law, construction companies can develop their activities by opting for an operational sector in the construction domain. Theorists researched the different divisions of the construction sector as “fragmentation of the industry” (Latham, 1994) with the purpose to find incentives to increase productivity and add value to the construction industry (Wang et.al., 2017). The current study was focused on investigating trends for labor and financial reported indicators by companies specialized in the main construction sectors in Romania. The main construction subsectors observed are:

- real estate development (Real estate Co);
- construction works for residential and non-residential buildings (Building Co);
- road and railway construction works (Road build.Co);
- construction works for utility projects (Utility projects Co);
- construction works for other engineering projects (Engineering projects Co);
- demolition and land preparation works (Demol.&land prep.Co);
- electrical and sanitary installation works and other construction installation works (Electric&sanitary works Co);
- finishing works in constructions (Finishing work Co);
- other special construction works (Other construction Co).

The analyzed population consists of all the firms acting in the construction industry in the counties of Constanta and Tulcea, that reported operational income and had turnovers greater than 0, during 2014-2018. The database included information provided by Romania’s National Institute of Statistics (INSSE) and the Ministry of Finance (ANAF). The number of investigated firms resulted in a considering amount of data which allowed us to capture a graphical representation of the complex and divergent construction business contexts in Constanta and Tulcea.

### 4. Findings

The two analyzed counties are situated by the Black Sea and present great potential for business. The geographic position of the analyzed region present strategic importance through the fact that they are an eastern sea gate to European Region, they have direct access to the sea and to the Danube, the river that connects Germany with the Black Sea. The construction business opportunities in the region are also supported by the touristic attraction of the seaside and the increasing demand for holiday accommodation especially in the summer season.

The analyzed population consists of a significant number of companies included in the dataset as presented, on a yearly basis, in Table 1.

Table no. 1 Number of analyzed companies presented by county and period

County/Year	2014	2015	2016	2017	2018
Constanta	1414	1482	1531	1595	1727
Tulcea	275	284	297	306	311
Total	1689	1766	1828	1901	2038

Source: Authors’ analysis based on the INSE indicators

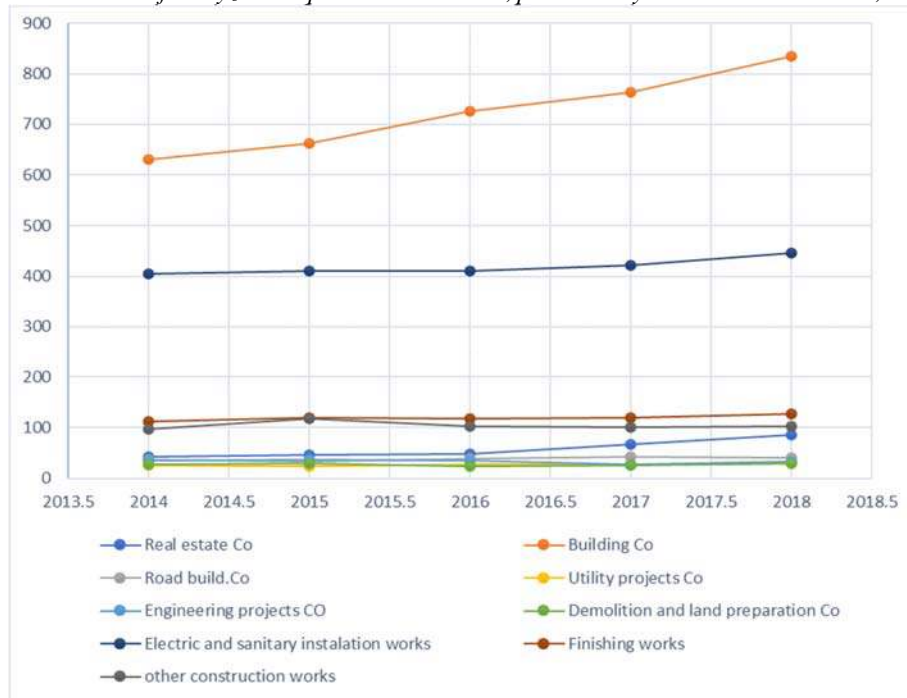
The numeric representation of the investigated data reveals a first interesting result of the territorial distribution of the construction firms in the two counties. Firstly, we can observe a growing trend of the total number of firms acting in Constanta and Tulcea, with positive turnover in the investigated period. From a comparative structural perspective, the number of firms is significantly larger in Constanta than in Tulcea throughout the whole reference period. The construction business is fairly more developed numerically in the southern county by the sea than in Tulcea.

If we consider that tourism may contribute to the development of the area, including by developing accommodation needs and household demand reflected in construction impetus, the situation is surprising at a general glance. Tulcea has the same geographical access to the sea, the same as Constanta, but in addition, it includes a dazzling touristic attraction listed as a World Heritage Site: the Danube Delta. The best-preserved delta on the continent, the Danube Delta, is an active scientific interest (Giosan et al., 2013) and represents a valuable natural site that may bring economic boost to the area. So, at a fair glance, touristic attractions should contribute to the county’s economic development in consistent trends, including in the construction sector.

The real situation is, nevertheless, different and somehow dichotomous, since the construction numerical representation is far more poorly represented than in Constanta. Hence, the research concern needs to be developed in finding potential factors and solutions able to trigger economic development and an upgrade of quality of life in the region (Popovici et al., 2019, p.166).

The graphical representation of the companies displayed by county and by construction sector are presented in Figures 1 and 2.

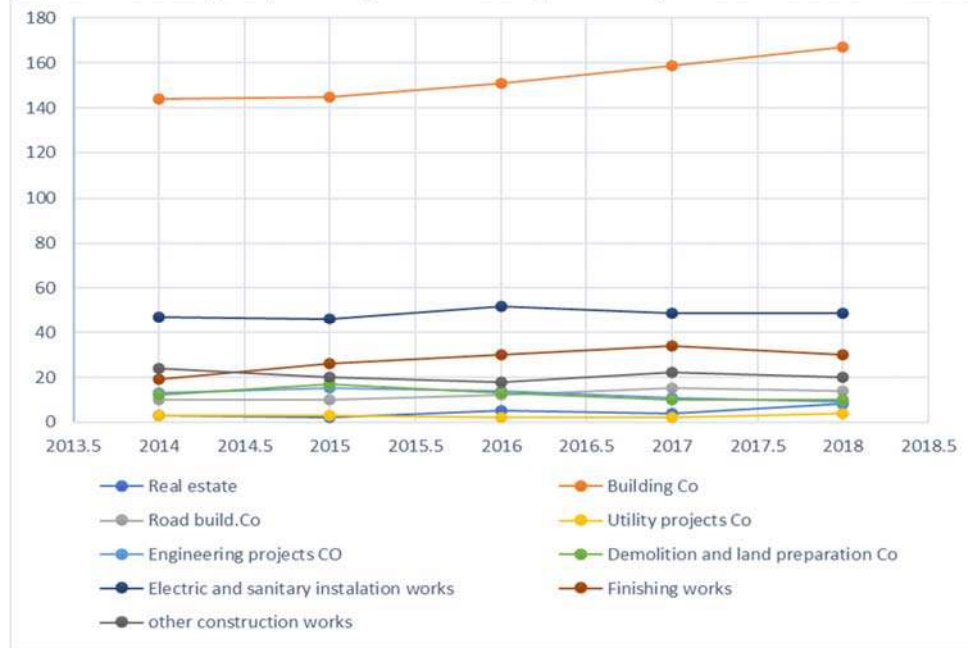
Figure no. 1. Number of analyzed companies in Constanta, presented by construction subsector, in Romania



Source: Author’s processing based on the INSSE indicators

According to Figure 1, the distribution by sector of the acting construction companies is not homogenous. The largest number of construction companies in Constanta operate in the sector of construction works for residential and non-residential buildings (Building Co), followed by the sector of electrical and sanitary installation works and other construction installation works (Electric & sanitary works Co). The sector with the fewest number of registered companies is the construction works for utility projects sector (Utility projects Co).

Figure no. 2. Number of analyzed companies in Tulcea, presented by construction subsector, in Romania



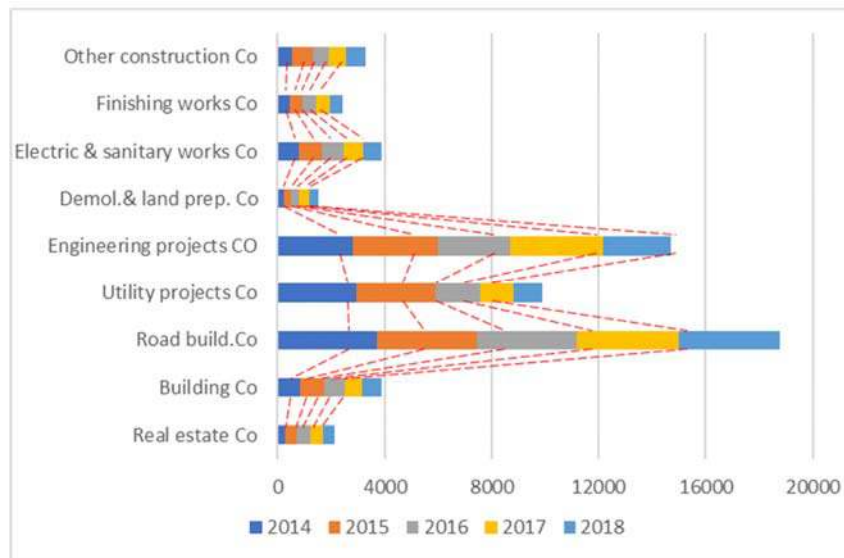
Source: Author’s processing based on the INSSE indicators

In Tulcea, Figure 2 reveals that the largest number of firms also opted to develop services in the construction works for residential and non-residential buildings (Building Co). The situation is similar in Constanta. For the other sectors, the proportions are different. In Tulcea, the least interest for operational services in construction was for the real estate development sector (Real estate Co).

In order to get a bigger picture of the construction business context in the seaside area, and to understand potential practices that may improve performance of the industry (Dainty et al., 2007, p.501), we created a glance on the labor force distributed per each construction sector, as per Figure 3 and 4. Considerations on the labor market indicators in the south-eastern region of Romania presented concern for research (Aivaz, 2012, p.317), offering impulse for future need of assessment of trends and evolution.

The consistent investigated database supports our research with a robust statistical significance of the graphical findings. The labor indicators are represented with colored rows for the numeric evolution of employees in each analyzed sector and year, which are overlapped with red dotted lines for the evolution of salary expenses in each sector and period.

Figure no. 3. Number of employees and salary expenses evolution, per construction subsectors, in Constanta, Romania

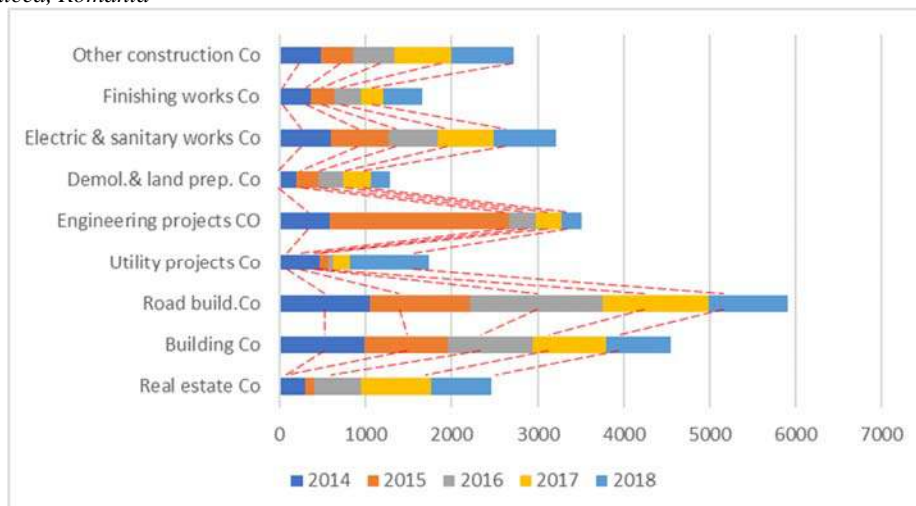


Source: Author's processing based on the INSSE indicators

Figure 3 reveals that in Constanta, the largest number of employees were hired by the companies acting in the road and railway construction works (Road build.Co), followed by construction works for other engineering projects (Engineering projects Co) and construction works for utility projects (Utility projects Co). Compared to the previous interpretation of Figure 1 with respect to the number of acting companies per construction sector, it seems that even though the number of firms is greater in the Building Co sector, the number of employees is ranked fourth in the graphical representation, and the salaries are disclosed to be amongst the poorest paid in the construction industry in Constanta.

The red lines which show the evolution of salary expenses, overlapped with the number of employees (Figure 3), reveal that, in Constanta, the better paid employees are the ones working in the construction works for other engineering projects (Engineering projects Co), while the smallest wages are in the demolition and land preparation works (Demol. & land prep.Co).

Figure no. 4. Number of employees and salary expenses evolution, per construction subsectors in Tulcea, Romania



Source: Author's processing based on the INSSE indicators

According to Figure 4, in Tulcea, the largest number of employees and the better payed salaries are the ones in the road and railway construction works (Road build.Co). Nevertheless, the construction works for residential and non-residential buildings (Building Co) is the second sector in the numerical importance of workers in Tulcea. Interpreted as whole, the numerical distribution of workers in the construction sectors in Tulcea seems to be more homogenous between the construction sectors than in Constanta.

The red lines which show the evolution of salary expenses, reveal a noticeable increase in the salaries payed for the workers in the construction works for other engineering projects (Engineering projects Co). It seems that in 2015 the number of workers and the wages in this sector increased significantly, attracting the largest number of workers in this subsector.

The same as in Constanta, the workers employed for demolition and land preparation works (Demol.&land prep.Co) are amongst the poorest payed during the analyzed period in Tulcea. Small numbers of workers were observed also in the construction works for utility projects (Utility projects Co), but an increase of salaries during 2018 in this subsector determined a noticeable increase of employment.

## 5. Conclusions

The current paper creates a valuable graphical perspective of the acting firms and labor costs in the construction subsectors in Romania's two counties by the sea, Constanta and Tulcea. The results point to divergent trends and evolutions of businesses and labor concerns in the two regions, that clearly depict the differences of business dimensions in the two regions. The numerical representation of firms differs significantly between the two counties with similar accessibility and demographical disposition. The touristic attractions point to favorable features in the northern county, in Tulcea, but the economic development of the region seems to have other particular factors with stronger influence, that need assessment and research concern.

The salaries in the construction industry are not high in the targeted region, but their evolution presents particularities for the two counties, with better numerical representation and wages levels in Constanta. The construction sectors are triggers for the development of national economy (Ghosh and Bhattacharjee, 2013), with propensity for tourism, industrial development and social prosperity.

Our study creates a visual snapshot of the construction context in Romania's counties by the sea. The used dataset includes a significant number of business indicators and thus captures a reliable assessment of the trends and divergencies in the evolution of the construction industry in the two areas. The results of our paper point to a further need of analysis and empirical studies in the construction field in the region, with a focus on constructive and sustainable development of business strategies and regional economic boost.

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