

# Research of the Factors Affecting the Administrative Capacity of Enterprises in the Logistic Sector of Bulgaria

R. Kenova, K. Anguelov, R. Nikolova

**Abstract**—The human factor plays a major role in boosting the competitive capacity of logistic enterprises. This is of particular importance when it comes to logistic companies. On the one hand they should be strictly compliant with legislation; on the other hand, they should be competitive in terms of pricing and of delivery timelines. Moreover, their policies should allow them to be as flexible as possible. All these circumstances are reason for very serious challenges for the qualification, motivation and experience of the human resources, working in logistic companies or in logistic departments of trade and industrial enterprises. The geographic place of Bulgaria puts it in position of a country with some specific competitive advantages in the goods transport from Europe to Asia and back. Along with it, there is a number of logistic companies, that operate in this sphere in Bulgaria. In the current paper, the authors aim to establish the condition of the administrative capacity and human resources in the logistic companies and logistic departments of trade and industrial companies in Bulgaria in order to propose some guidelines for improving of their effectiveness. Due to independent empirical research, conducted in Bulgarian logistic, trade and industrial enterprises, the authors investigate both the impact degree and the interdependence of various factors that characterize the administrative capacity. The study is conducted with a prepared questionnaire, in format of direct interview with the respondents. The volume of the poll is 50 respondents, representatives of: general managers of industrial or trade enterprises; logistic managers of industrial or trade enterprises; general managers of forwarding companies – either with own or with hired transport; experts from Bulgarian association of logistics; logistic lobbyist and scientists of the relevant area. The data are gathered for 3 months, then arranged by a specialized software program and analyzed by preset criteria. Based on the results of this methodological toolbox, it can be claimed that there is a correlation between the individual criteria. Also, a commitment between the administrative capacity and other factors that determine the competitiveness of the studied companies is established. In this paper, the authors present results of the empirical research that concerns the number and the workload in the logistic departments of the enterprises. Also, what is commented is the experience, related to logistic processes management and human resources competence. Moreover, the overload level of the logistic specialists is analyzed as one of the main threats for making mistakes and losing clients. The paper stands behind the thesis that there is indispensability of forming an effective and efficient administrative capacity, based on the number, qualification, experience and motivation of the staff in the logistic companies. The paper ends with recommendations about the qualification and experience of the specialists in logistic departments; providing

effective and efficient administrative capacity in the logistic departments; interdependence of the human factor and the other factors that influence the enterprise competitiveness.

**Keywords**—Administrative capacity, human resources, logistic competitiveness, staff qualification.

## I. INTRODUCTION

ONE of the most important aspects of successful business performance of each enterprise is Human Resource Management (HRM). The need of enough quantitative, qualified and competent staff can be found in every department of the business organization – either industrial or in the sphere of services. Moreover, on one hand, for the industrial enterprises, the logistic department is very important, because the production should be distributed to reach the clients and on the other hand, the aim of the forwarding companies is to help the industrial enterprises with their logistic processes and to satisfy completely the clients' needs. For each of these cases, the administrative capacity is a factor of very high importance. This is the background, the authors use in the process of establishment of the factors that affect the administrative capacity of the enterprises in Bulgarian logistic sector. Once they fix them, they evaluate the level of their importance.

Bulgaria is a country with a significant geo-strategic role in the Balkans. It provides transport corridors from North to South and from West to East. Due to its developing infrastructure and the intermodal hubs, Bulgaria is a strong logistic partner both to the other members of EU (Romania, Greece) and to the candidate countries (Serbia, Albania, Turkey, Macedonia, Montenegro). That's why; the Bulgarian logistic sector should be represented by administrative employees, acquainted both with the trade, transport and logistics directives and regulations, valid for EU, but also with the ones, valid outside the borders of EU. Moreover, the administrative capacity should be researched in various aspects, not only to improve the performance of the unsatisfactory units in the logistic processes chain, but also to keep the good work of the satisfactory ones.

## II. LITERATURE REVIEW

A direct link between the administrative capacity and the logistic performance is found in the Index of Logistic Performance. This tool, invented to measure the logistic performance of each country and initiated by The World Bank

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is based on six dimensions – Customs, Infrastructure, Ease of arranging shipments, Quality of logistic services, Tracking and tracing and Timeliness. The LPI is used by Dimitrov [1] to compare, on one hand Bulgaria with the other countries in the Balkans, on the other hand, with the Eastern European countries, and on the third hand – with the countries all over the world, where it is found a straightforward relation between the level of logistic development and the level of the economic development of the countries. The author concludes that Bulgaria falls behind both from the leading countries and from the EU members and it is not only in the level of logistic development but in the components of LPI, as long as the weakest component is the logistic and transport infrastructure. It is established a disquieting tendency of increase of this lagging behind, which, combined with the fact that Bulgaria is surrounded by countries with low LPI does not give a good forecast. Based on the same index, Rakovska compares the logistic performance of Bulgaria and Germany [2]. One of the conclusions in the paper is that Bulgaria suffers from lack of qualified employees in the sphere of logistics, which leads to insufficient personnel in all business sectors. HRM is one of the most important parts of the total management of each business organization. It is researched in detail by Donchev [3], where the focus is put on different aspects of HRM – provision of the business unit with enough personnel; use of the working time; workload of the employees, which may be reason for their potential turnover intentions [4]; labor productivity. Regarding the workload, it is researched that along with role conflict, it may cause a burnout [5]. Moreover, HRM deals with the need of increase of the staff qualification and re-qualification [6], [7] which aims to increase the level of its competency. It consists [8] of four components – skills, problem solving, expertise and adaptability competencies. The relation between higher competence, due to sufficient staff trainings [9], personnel motivation [10] and reward system – on one hand; and expected increasing contribution of HRM to the business performance – on the other hand is researched and established with higher level of validity for the organizations with entrepreneurial orientation. Also, the impact of human resources' competency over the improvement of Warehouse Operations Management (WOM) is studied and measured [11] in a qualitative research, where it is concluded that not only the current employee competency is important, but also the forecast of the future one, as to guarantee the future success of the business organization. Along with qualification, there is one more aspect to be revealed and this is the rate of manageability of human resources, which shows the number of employees, supervised by one manager [12]. It is adopted for most favorable the rate between 4 and 10 employees, as far as everything below 4 means too much hierarchical levels, but everything above 10 leads to difficulties for the manager.

### III. METHODOLOGY OF RESEARCH

The object of this paper is a qualitative research, which aims to establish how some factors affect the administrative capacity of enterprises in Bulgarian logistic sector. These

factors are pre-defined, due to expert opinion of logistic specialists and scientists and are formulated in closed questions in the meaning of their importance for the administrative capacity. The research is conducted in the form of direct interview, with the help of a questionnaire, amongst 50 respondents. They are representatives of: general managers of small or medium industrial and trade enterprises; managers in logistic and forwarding companies, experts from Bulgarian Association of logistics; logistic lobbyists and scientists of the relevant area.

The first part of the questionnaire aims to establish the category of each respondent, the field of work, that his expert opinion is based on and how much is the experience he has had. The second part of the questionnaire concerns the expert opinion of the respondents about the factors that have importance for the administrative capacity of enterprises in Bulgarian logistic sector – number of employees, competency, workload, logistic managers' experience. The possible answers are rated from 1 (extremely weak importance) to 7 (extremely strong importance). Besides this, there is a question that relate to the logistic managers' experience, which answers are rated from 1 to 7, according to the years of experience and another one, related to the rate of employees' manageability, which answers are rated from 1 to 6, according to the number of employees a manager should lead.

The gathered data are coded and processed by a software program, which gives the results both in table and in graphic way. The data are analyzed directly and then by multiple criteria, as to reveal the most important tendencies for the conclusions.

## IV. CUMULATED RESULTS AND ANALYSIS

### A. Demographic Results

The first section of the poll may be assumed as demographic, as far as it describes the structure of the respondents. Fig. 1 presents the results distribution according to the current occupation of the respondents. For the needs of the research are interviewed both managers of industrial and of trade enterprises, because there might be a different point of view over the studied problem, depending on their entrepreneurial orientation. Also, they are representatives of either small or medium business organizations, such as there are different needs of administrative capacity in each size of enterprise.

32% of the respondents are representatives of Logistic managers (LM) in industrial or trade enterprises. They are followed by the representatives of General Managers (GM) in industrial/trade enterprises (22%). Totally, these two categories are more than half of all the respondents, because the authors aim to reach more opinions from experts that have view over the whole logistic process.

The rest of the answers are distributed among: General managers of forwarding companies with own transport (4%), General managers of forwarding companies with hired transport (2%), Logistic managers of forwarding companies with own transport (2%), Logistic managers of forwarding

companies with hired transport (10%), Experts from Bulgarian Association of Logistics (6%), Logistic lobbyists (4%) and Scientists of the relevant area (18%). There is a broad spectrum of respondents, as this paper needs to explore both theoretical and practical point of views.

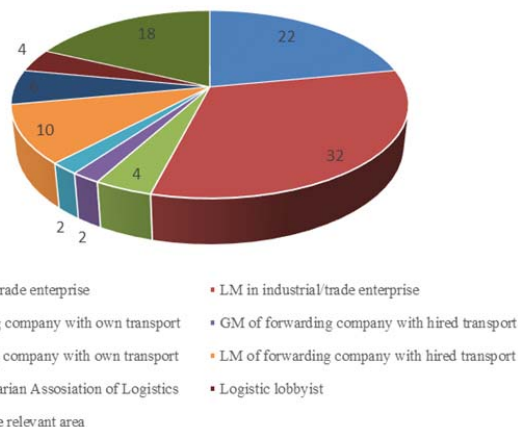


Fig. 1 Type of respondents

Results regarding the field of work of respondents' expert opinion are presented in Fig. 2.

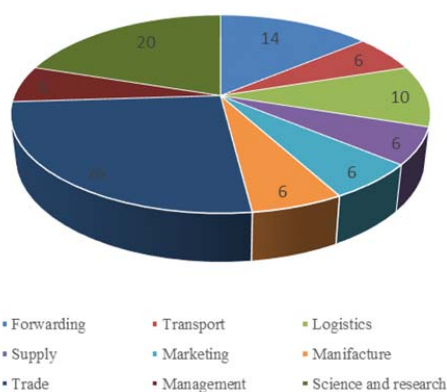


Fig. 2 Respondents' field of work

It may be seen that the respondents have formed their expert opinion due to various fields of work – both in practice and in theory. 20% of them have worked in the sphere of science and research, where they have studied and analyzed the logistic problems. The rest of the answers are distributed as follows: 26% for Trade, 14% for Forwarding, 10% for Logistics, 6% for each of: Transport, Supply, Marketing, Manufacture, and Management. It may be seen that there is no category with extremely high domination, as it would be a reason for distortion of the results.

The respondents' experience is the last question of the demographic part of the poll. It aims to establish how long is the period that respondents have gained their expert opinion. Fig. 3 presents the results, distributed in the following categories: 32% of the respondents have 11-15 years of experience, almost equal parts are for these with 5-10 years of experience (26%) and 16-20 years of experience (24%), while

the rest of the answers are divided between respondents with more than 20 years of experience and these with up to 5 years of experience. More than half of the respondents have experience of 11-20 years, which may be considered as a reliable prerequisite for a qualified expert opinion.

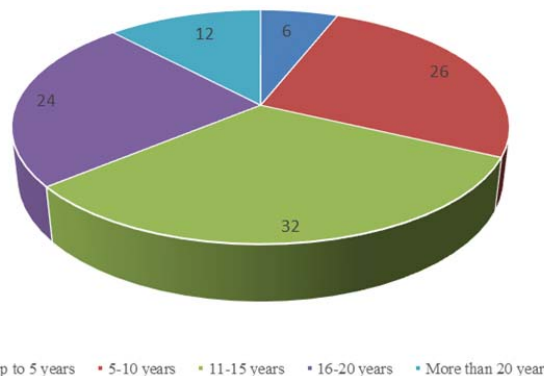


Fig. 3 Respondents' years of experience

### B. Expert Opinion Section

The second part of questionnaire is more detailed and is presented by questions, related to the importance of the defined factors over administrative capacity of the enterprises in Bulgarian logistic sector. The results are processed and analyzed in a multicriterial way – on one hand – by categories of respondents and on the other hand – by rated level of importance of every factor. Here, all categories of respondents are divided into three groups, such as it is supposed to have similar expert opinion.

First group (Group 1) consists of GM and LM of industrial/trade enterprise; second group (Group 2) consists of GM and LM of forwarding organizations, both with hired and with own transport; third one (Group 3) consists of Bulgarian Association of Logistics (BAL), lobbyists and scientists from the relevant area.

Fig. 4 presents the results, revealing the importance of the number of logistic employees in the enterprises. It is observed that answers, rated with "Very strong", given by respondents from Group 1 strongly dominate over the other answers (37.78%). The rest of the results are distributed amongst "Extremely strong" and "Very weak", but there are no answers rated with "Extremely weak" importance. Moreover, the representatives of Group 1 give rate only in positive spectrum of the scale, as they are also the only who give answer "Extremely strong". The respondents from Group 2 divide their answers between "Very strong", "Strong" and "Neither strong, nor weak", whilst the answers of the respondents from Group 3 cover the whole spectrum from "Very strong to very weak". Also, it is observed that only these respondents rate this question with answers in the negative spectrum of the scale, which may be interpreted as a consequence of their preference of other factors that affect the administrative capacity.

The results of question, concerning the importance of the even workload of logistic employees in the enterprises are presented on Fig. 5. What is impressive here is that about half

of the respondents rate it with “Extremely strong” and almost all of them are from Group 1. Also, there is an interesting distribution of the answers – Group 1 gave only “Extremely strong” and “Very strong” answers, Group 2 rated this

question only with “Very strong” and “Strong”, whilst Group 3 has answers in the whole spectrum. There is a tendency, revealed of the answers of the last two questions and that is the lack of rate “Extremely weak”.

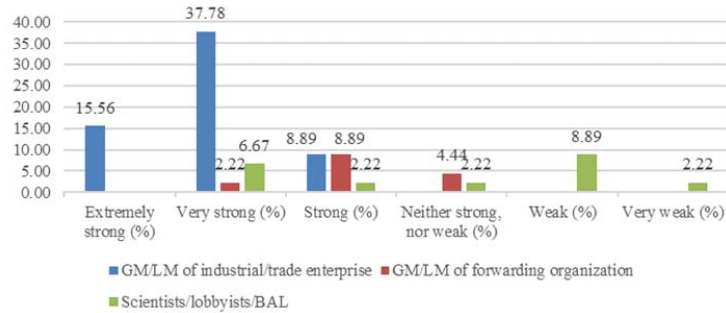


Fig. 4 Importance of the number of logistic employees in the enterprises

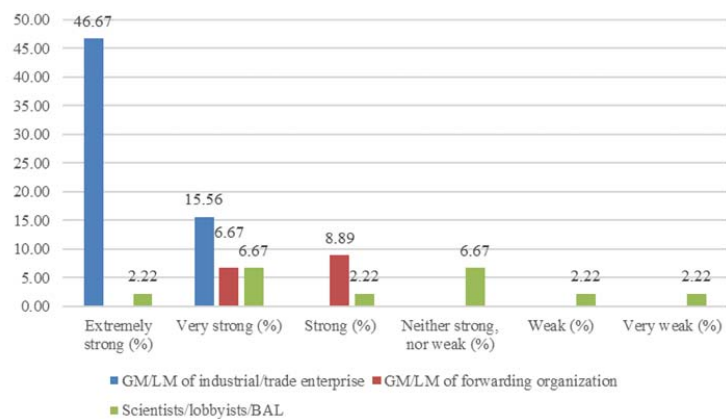


Fig. 5 Importance of the even workload of logistic employees in the enterprises

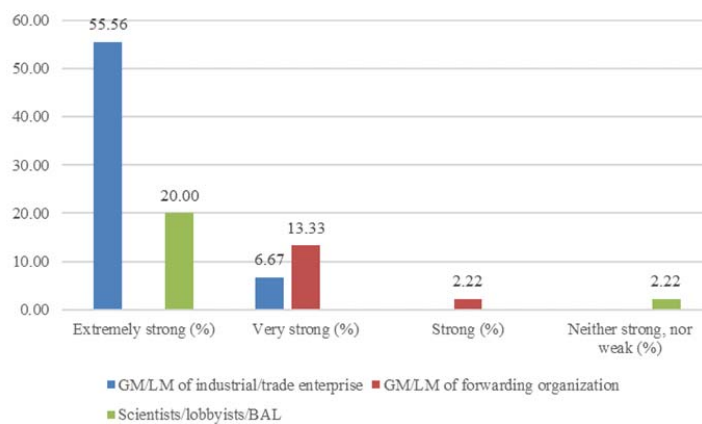


Fig. 6 Importance of the competence of logistic employees in the enterprises

Fig. 6 presents the results of question that is related to the competence of logistic employees in the enterprises. Here, the share of the respondents, who give answer “Extremely strong” raises up to more than three-quarters of the whole volume of the poll, dominantly presented by ones from Group 1 (55.56%). It may be assumed as indicator that for the GM and LM of industrial/trade enterprises, the competence of their employees is more important than their number and their

workload. This may be interpreted in a way, that the more competent is the staff the higher labor productivity it may have, because high competence is supposed to be a premise for faster work processes. It is impressive that there are no answers in the negative spectrum of the scale, which may lead to the conclusion that employees’ competence is one of the factors of highest importance for the administrative capacity of Bulgarian enterprises with logistic orientation.

The importance of the logistic managers' experience for the administrative capacity in the enterprises is presented in Fig. 7. The most impressive feature of these results is their almost equal distribution between answers "Extremely strong" and "Very strong", completed with "Strong" with 2.22%.

According to these percentages, all in the positive part of the spectrum, it may be concluded that managers, who are well prepared and have enough background may lead employees in a way that they increase their competence and efficiency.

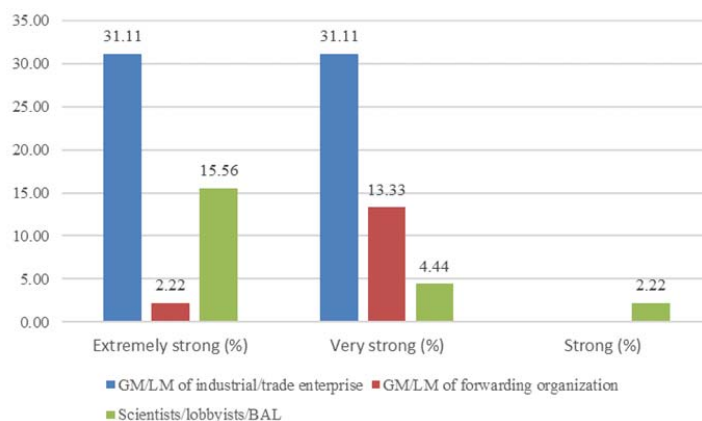


Fig. 7 Importance of logistic managers' experience in the enterprises

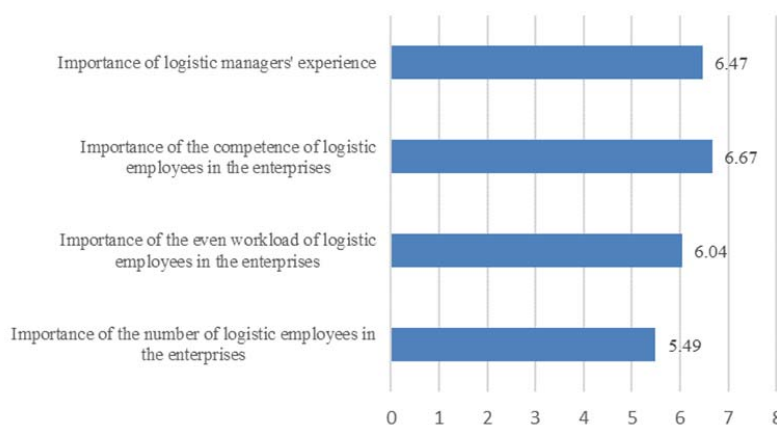


Fig. 8 Importance of the expert factors for the administrative capacity of the Bulgarian logistic sector

Comparative results between last four questions, in the sense of their total importance for the administrative capacity of industrial enterprises, are presented in Fig. 8. The average values of all the expert factors are compared, aiming to reveal which is the most important one and which are the less significant ones. It may be noticed that the most important factor is "Importance of the competence of logistic employees in the enterprises", with average value exceeding 6.50. This result, inclining to the value that corresponds to "Extremely high", may be interpreted as a sign that for a massive part of the respondents, employees' competence stands above all other factors. The factors with lower level of importance are presented, as follows – 6.47 for "Importance of logistic managers' experience", 6.04 for "Importance of the even workload of logistic employees" and 5.49 for "Importance of the number of logistic employees". These results may be commented in the meaning of the human expertise, which plays a leading role for the Human Resources efficiency. It may be assumed that the number of human employees is quite

insufficient, if it is not supported by a high competence and a good staff management.

There are two more questions in the poll. First of them aims to establish, on one hand, how much should be the experience of logistic managers. The second one is related to the maximum number of employees in a logistic department in the enterprise. Results, related to the logistic managers' experience are presented in Fig. 9. It is observed that more than half of the respondents reckon for an appropriate experience a period, longer than seven years. It is noticeable that the dominant share of these answers belongs to Group 1, which may be inspired of their own long experience on the way to this position. The answers from Group 3 are almost evenly distributed in the whole spectrum, which may be interpreted in the sense that a longer theoretical experience may compensate the shorter practical one.

Fig. 10 presents the results of the question, which concerns the rate of human resource manageability. It may be seen that 60% of the respondents assume that the number of employees,

subordinated of one logistic manager should be between 3 and 5 persons. Also, it is impressive that about 95% of the answers cover the range between 3 and 10 persons, which is in total compliance with the theoretical rate of Human resource

manageability (4-10 persons). The fact that the rest 4.44% of the answers are given by Group 3 may be interpreted as an exception that proves the rule.

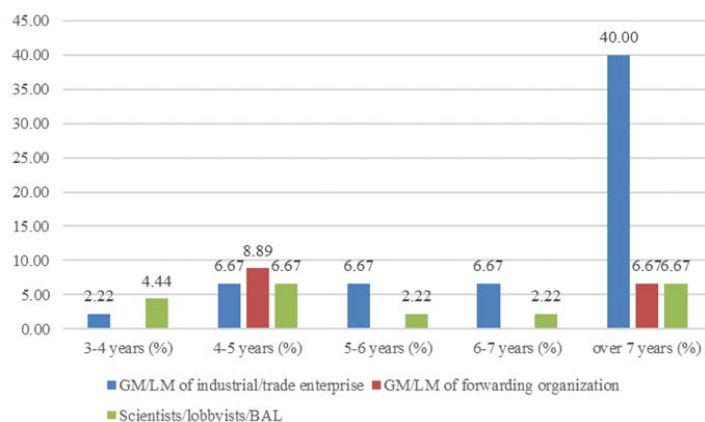


Fig. 9 Years of logistic managers' experience

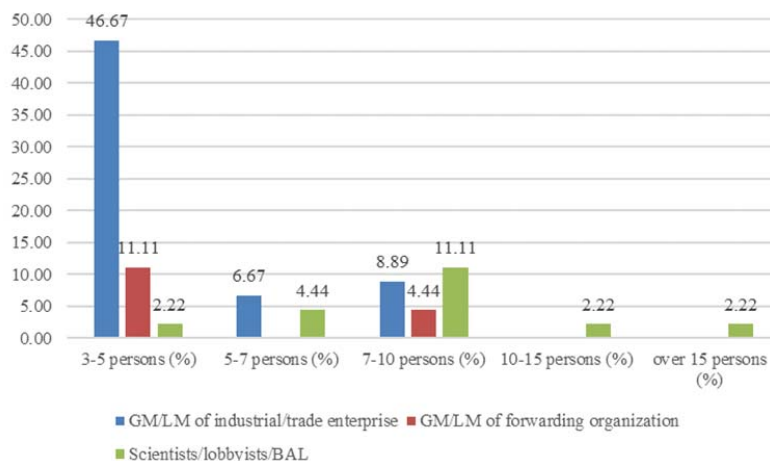


Fig. 10 Rate of Human Resource manageability

#### V.CONCLUSION

Based on the conducted research, there are some global conclusions to be made.

First, there is no factor from the questionnaire, rated with "Extremely weak". This, along with the comparatively low shares of "Very weak" and "Weak" answers may be considered as indicator for a very precise selection of the questions in the poll.

Second, every factor is rated by average value with "Strong" or "Extremely strong" importance for the administrative capacity of Bulgarian enterprises with logistic orientation. The fact that they are defined of such a strong significance assumes that the results may be used as fundament for a future research, aiming to improve the results in these areas and to achieve a better logistic performance.

Third, a similar research may be applied in the field of Bulgarian Customs, to establish the importance of administrative capacity.

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