

Survey on Management Practices
2016

Errata: Figures 1, 3, 4, 5 and 11 were corrected, due to incorrect aggregation of activities "Accommodation and food service activities" and "Transport and Storage; Information and communication activities ". In the first paragraph of page 3, where it was 67% should read 69%.

Management practices are significantly relevant for the economic performance of enterprises

Statistics Portugal carried out an unprecedented survey over a sample of enterprises, established in the legal form of companies, achieving nearly four thousand valid replies, which made it possible to obtain information on management practices and characteristics in 2016. Some of the main findings were:

- In 61.0% of the companies, top managers had a bachelor's or higher degree. This percentage was 82.9% in large enterprises and 43.7% in microenterprises.
- In about 70% of the companies, the top manager exercised functions under exclusivity (60.6% in microenterprises and 78.4% in large enterprises).
- Almost all companies reported having performance targets, which in general they considered to be moderately ambitious; around 43% reported that they had and monitored performance indicators on a monthly or quarterly basis.
- Less than half (44.9%) of the companies reported awarding performance bonuses to their employees for achieving the company's defined goals.
- In about 51% of the companies no promotions were awarded to employees with management functions. This percentage decreased to 44.3% in the case of employees with no management functions.

Combining the information from this survey with information reported to Statistics Portugal in other statistical operations, the results obtained indicate a significant relationship between management quality and the economic performance of the enterprises.

Statistics Portugal publishes the main results of the Survey on Management Practices, carried out for the first time within the scope of the National Statistical System.

The Survey, of a qualitative nature, falls within the scope of a range of statistical operations intended to disclose information on factors that, although with no explicit monetary reflection on enterprise accounting, constrain their competitiveness in a context of growing integration within overall economy. Therefore, approximately two years ago, Statistics Portugal decided to launch a survey on framework regulation costs, of which a new edition is envisaged in 2018. Also in this case, this statistical operation is expected to be repeated in three years' time, which will naturally make it possible to add the analytical potentialities of the results achieved in this first edition.

In order to obtain a synthetic measure of management quality, an indicator has been built (*gscore*), based on an indicator designed for a similar survey of the US Census Bureau (see box at the end of this Press Release).

The survey was addressed at top managers of enterprises established in the legal form of a company, in order to obtain information on Management Practices and their variability, depending on a range of enterprise characteristics. It included three main modules: A - Characterisation of the enterprise; B - Management practices of the enterprise; and C - Information of the top manager responsible for the information. It was carried out between 12 June and 30 August 2017, and 2016 was the reference year for the replies. The survey was launched to a sample of 4,469 economically active companies, of which 3,875 replies were considered valid (86.7%).

The main results obtained were divided according to four strata variables: Age of the enterprise, Belonging to an economic group, Size of the enterprise and Economic activity. In attachment, please find the survey, as well as a wider group of result tables, in addition to those included in this Press release.

A. CHARACTERISATION OF THE ENTERPRISES

85.1% of the companies had more than five years in 2016

Figure 1 – Characterisation of companies, 2016

Aggregation	Total	Weight %
Total companies		
Total companies	3875	100.0%
Enterprise age		
Young	578	14.9%
Adults	1477	38.1%
Senior	1820	47.0%
Enterprise Group (EG)		
Belongs	1794	46.3%
Doesn't belong	2081	53.7%
Enterprise size-class		
Micro	733	18.9%
Small and medium	2234	57.7%
Large	908	23.4%
Economic activity		
Agriculture, forestry and fishing	174	4.5%
Manufacturing	1697	43.8%
Energy, water and sanitation	236	6.1%
Construction and real estate	225	5.8%
Distributive trade	498	12.9%
Accommodation and food services	191	4.9%
Transportation and storage, information and communication	476	12.3%
Other service activities	378	9.8%

From total respondents, approximately 85% had more than five years in 2016, around 46% belonged to an economic group and 76.6% were micro, small and medium-sized enterprises. The Manufacturing, Distributive Trade and Transportation sectors covered around 69% of the replies.

In 2016 management decision were mainly taken within the enterprise

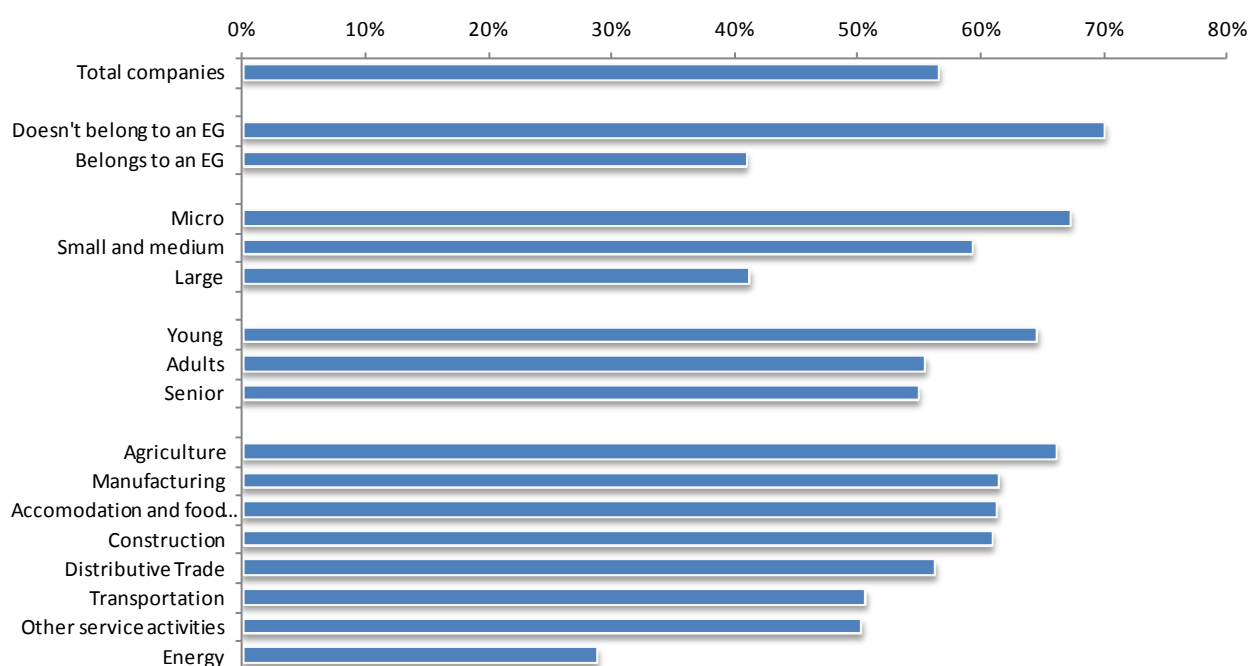
Figure 2 - Entities where management decisions were taken, 2016

Component	Only within the surveyed enterprise	Only in the enterprise Group Head	Both at the surveyed enterprise and the enterprise Group Head	No decisions were taken
Hiring of persons employed	69,3%	1,6%	17,3%	11,8%
Changes in salaries of persons employed	61,4%	2,7%	19,4%	16,5%
Introduction of new goods and /or services	56,2%	2,4%	17,5%	23,9%
Price revision of goods and /or services	63,3%	2,9%	16,1%	17,8%
Advertising for goods and /or services	53,8%	3,7%	14,8%	27,8%
New markets of operation of the enterprise	46,6%	4,4%	14,3%	34,7%

In 2016, management decisions were mainly taken only within the surveyed enterprise, except decisions related to "New markets of operation of the enterprise", mentioned by 46.6% of the companies. Approximately 35% indicated that they had not taken any decision relating to "New markets of operation of the enterprise".

In 2016 more than 50% of total companies were owned by the founders or their family members

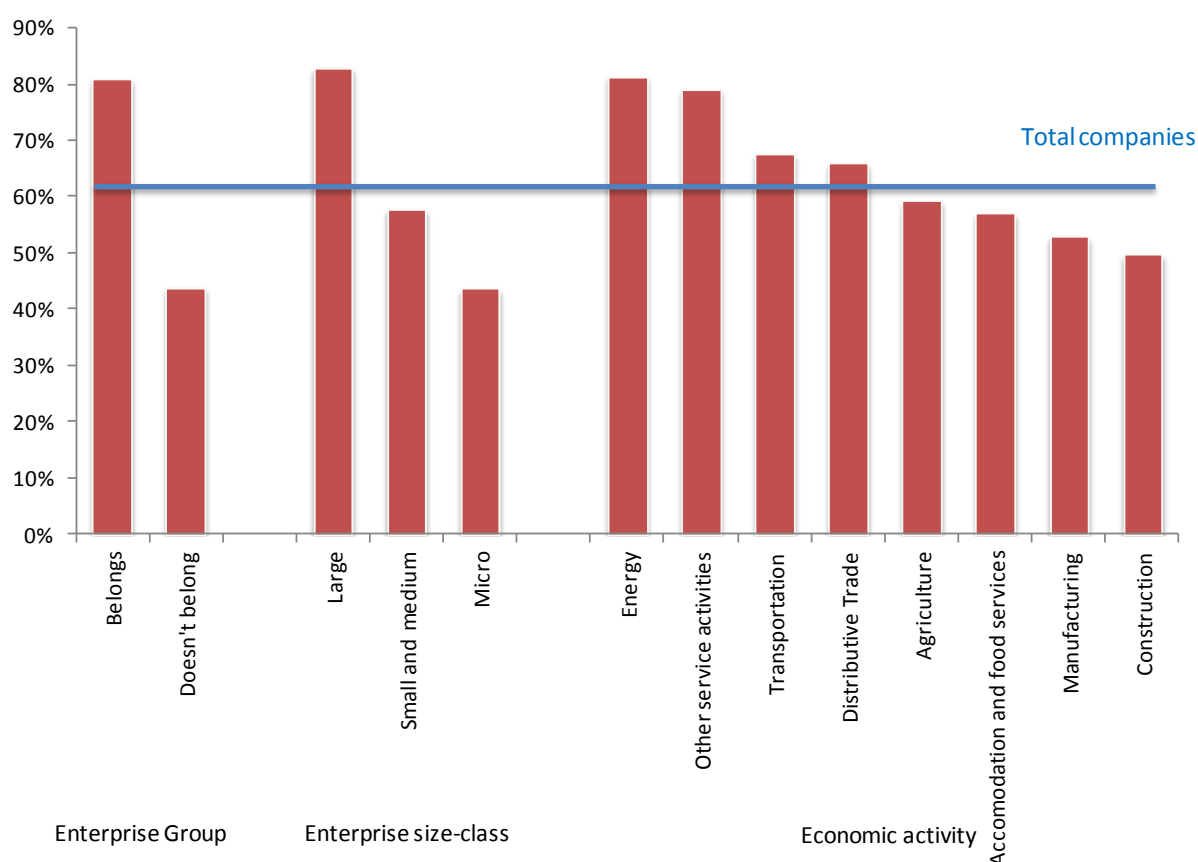
Figure 3 – Companies (%) owned by the founders or their family members, 2016



Most companies (56.5%) were owned at 50% or more of their capital by the founders or their family members. Among the younger ones, the percentage of companies owned by the founders or their family members increased to 64.5%, whereas in older ones that percentage declined to 54.9%. The older and the greater the size of the enterprise, the smaller the percentage owned by the founders or their family members. In 70% of the enterprises not belonging to a group, the founders held control, which compares with only 40.9% in the enterprises belonging to a group.

Most top managers had a college degree

Figure 4 – Companies (%) top managers with a college degree, 2016



In 2016 top managers had a bachelor's or higher degree in 61.0% of the companies.

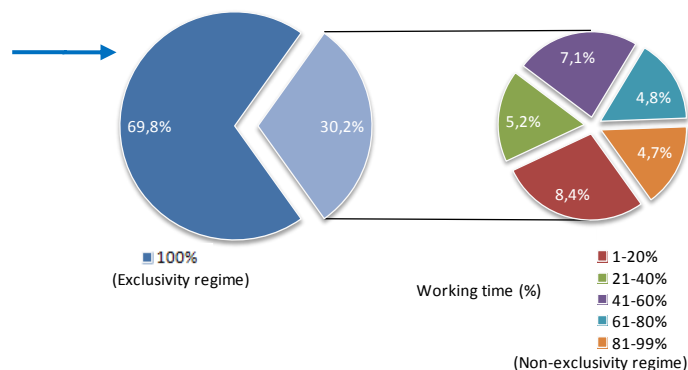
This percentage increases to 80.8% in the case of enterprises belonging to a group, 82.9% in the case of large enterprises and 81.4% in enterprises in the energy sector.

Conversely, in enterprises not belonging to a group, 56.1% of the top managers were not graduates, the same occurring in 56.3% of microenterprises and 50.2% of enterprises in the Construction and Real Estate sectors.

Approximately 70% of the top managers exercised their functions on an exclusive basis

Figure 5 – Exclusivity regime of companies' top managers (%), 2016

Aggregation	Yes	No
Total companies		
Total companies	69.8%	30.2%
Enterprise age		
Young	64.9%	35.1%
Adults	68.1%	31.9%
Senior	72.6%	27.4%
Enterprise Group (EG)		
Belongs	69.2%	30.8%
Doesn't belong	70.3%	29.7%
Enterprise size-class		
Micro	60.6%	39.4%
Small and medium	69.2%	30.8%
Large	78.4%	21.6%
Economic activity		
Agriculture, forestry and fishing	55.2%	44.8%
Manufacturing	71.4%	28.6%
Energy, water and sanitation	61.9%	38.1%
Construction and real estate	65.8%	34.2%
Distributive trade	74.7%	25.3%
Accommodation and food services	69.6%	30.4%
Transportation and storage, information and communication	70.2%	29.8%
Other service activities	69.6%	30.4%



In 2016, top managers exercised their functions on an exclusive basis in 69.8% of the companies. This percentage tended to increase in tandem with the age of the enterprise (72.6% in senior enterprises and 64.9% in younger enterprises) and its size (78.4% in large enterprises and 60.6% in microenterprises). Enterprises in the Agricultural sector had the smallest percentage of top managers exercising their functions on an exclusive basis (55.2%).

Figure 6 – Companies (%) with top managers in a non-exclusivity regime, 2016

Aggregation	1-20%	21-40%	41-60%	61-80%	More than 80%
Total companies					
Total companies	15,7%	15,8%	23,4%	17,2%	27,9%
Enterprise age					
Young	18,2%	16,7%	24,1%	15,8%	25,1%
Adults	16,8%	16,8%	23,1%	17,4%	25,9%
Senior	13,7%	14,5%	23,3%	17,7%	30,9%
Enterprise Group (EG)					
Belongs	21,7%	16,1%	23,1%	15,6%	23,5%
Doesn't belong	10,3%	15,5%	23,6%	18,7%	31,8%
Enterprise size-class					
Micro	18,0%	19,7%	18,0%	17,6%	26,6%
Small and medium	16,0%	15,0%	25,2%	16,6%	27,2%
Large	11,2%	12,8%	25,0%	18,9%	32,1%

Approximately 69% of the companies where the top managers exercised their functions on a non-exclusive basis mentioned that the period of time allocated to top functions of management exceeded 40% in 2016, while in 27.9% of the cases it exceeded 80%.

A top manager is characterised by making decisions and assuming the responsibilities

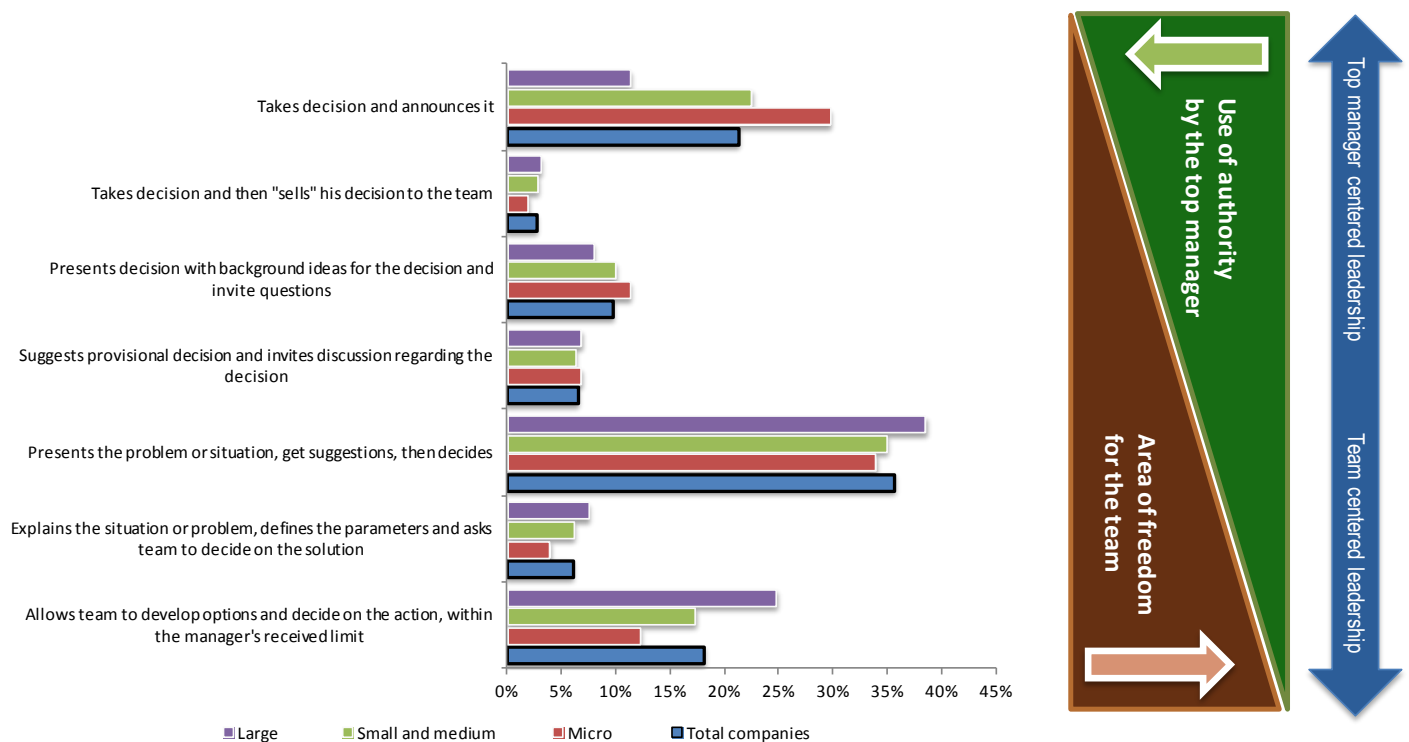
Figure 7 – Characteristics that describe the top managers, 2016



According to the respondents, the three characteristics that better describe the top manager were: "Making decisions" (23.6% of the replies), "Assuming the responsibilities" (21.5%) and "Taking action" (16.4%). In contrast, the least mentioned characteristics were "Offering feedback" (2.4%), "Acknowledging and respecting the boundaries between managers and their employees" (4.9%) and "Asking for help if necessary" (5.0%).

In general, management decision-making is participatory

Figure 8 – Leadership style of companies' top managers (%), 2016



The leadership pattern was based on the theory developed by [Tannenbaum and Schmidt](#), in which every type of behaviour is related to the degree of authority used by the top manager and the amount of freedom available to the team in reaching decisions, with the different variations in leadership practices ranging between an authoritarian and democratic behaviours. The replies collected revealed that, in 2016, the leadership pattern mostly referred to as that prevailing in the companies was the one where the top manager presented the problem, received suggestions and made the decisions (35.6% of the replies), i.e., a team-centered leadership.

B. MANAGEMENT PRACTICES OF THE ENTERPRISES

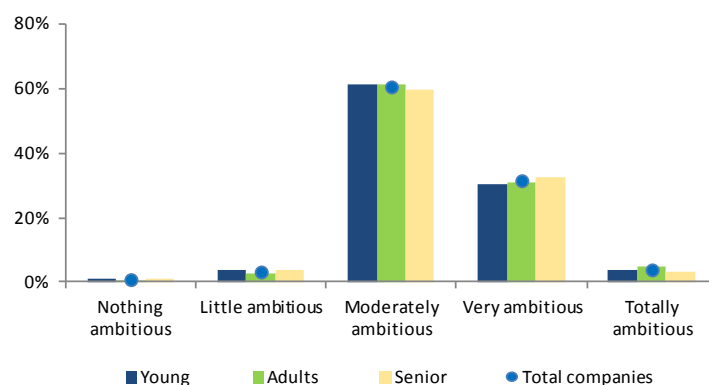
Figure 9 - Calendar of objectives in companies (%), 2016

There were no objectives for 4.0% of total companies in 2016

Aggregation	Essentially short-term (less than one year)	Essentially long-term (more than one year)	Combination of short-term and long-term	No objectives were defined
Total companies				
Total companies	21,3%	12,1%	62,5%	4,0%
Enterprise age				
Young	25,6%	11,9%	57,1%	5,4%
Adults	20,7%	13,8%	61,9%	3,5%
Senior	20,4%	10,8%	64,7%	4,0%
Enterprise Group (EG)				
Belongs	15,7%	11,9%	70,6%	1,8%
Doesn't belong	26,1%	12,3%	55,6%	6,0%
Enterprise size-class				
Micro	27,7%	10,9%	52,8%	8,6%
Small and medium	21,9%	12,9%	61,3%	3,8%
Large	14,6%	11,2%	73,3%	0,8%

In more than 62% of the companies, the calendar of objectives established for the main good and/or service produced resulted from a combination of short term and long term, which was more apparent with the age of the enterprise (57.1% in younger enterprises and 64.7% in senior ones). Essentially short-term objectives were more expressive in enterprises not belonging to a group (26.1%) than in those belonging to a group (15.7%). Around 71% of the enterprises belonging to a group combined short-term and long-term objectives. This increased in tandem with the size of the enterprise (52.8% in microenterprises, compared with 73.3% in large enterprises), whereas essentially short-term objectives were more expressive in smaller enterprises (27.7% in micro enterprises, versus 14.6% in large enterprises).

Figure 10 – Degree of ambition of the companies' objectives, by enterprise age (%), 2016



Approximately 61% of the companies assessed the objectives established for 2016 as moderately ambitious. This perception was more noticeable in younger enterprises (61.4% in younger enterprises and 59.8% in senior ones). The perception of more ambitious objectives was more marked in older enterprises (32.4% in senior enterprises, compared with 30.3% in younger ones).

Approximately 15% of the companies reported that no key performance indicator was monitored in 2016

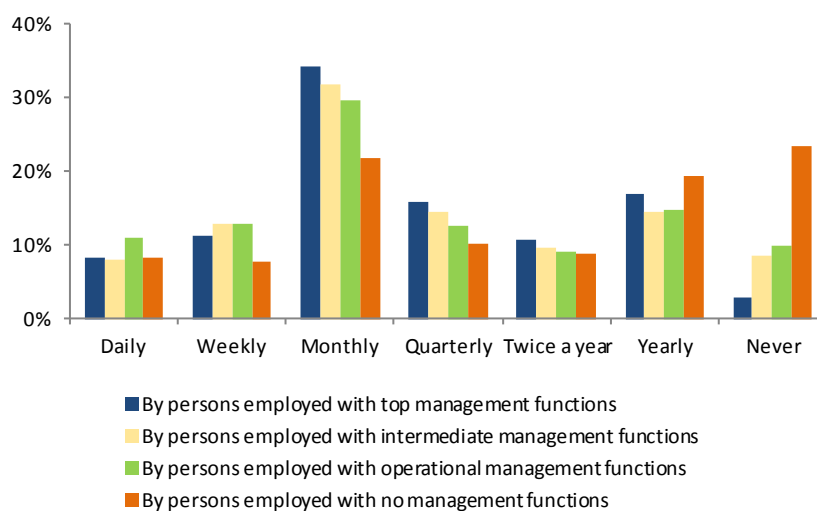
Figure 11 – Key indicators monitored in companies (%), 2016

Aggregation	1 to 5 indicators	6 to 10 indicadores	11 to 15 indicadores	16 to 20 indicadores	More than 20 indicadores	No indicators
Total companies						
Total companies	27.3%	23.9%	12.9%	6.4%	14.6%	14.9%
Enterprise age						
Young	33.2%	22.7%	12.1%	5.4%	7.8%	18.9%
Adults	29.4%	23.6%	11.0%	7.4%	13.8%	14.7%
Senior	23.7%	24.5%	14.7%	5.9%	17.4%	13.8%
Enterprise Group (EG)						
Belongs	20.5%	26.1%	13.8%	9.1%	24.2%	6.4%
Doesn't belong	33.2%	22.0%	12.2%	4.1%	6.3%	22.2%
Enterprise size-class						
Micro	38.5%	17.5%	10.1%	2.6%	3.4%	28.0%
Small and medium	28.6%	25.8%	13.0%	6.2%	11.1%	15.2%
Large	15.1%	24.3%	14.9%	10.0%	32.2%	3.5%
Economic activity						
Agriculture, forestry and fishing	40.8%	19.5%	6.3%	5.7%	6.9%	20.7%
Manufacturing	27.5%	23.3%	13.8%	6.1%	13.1%	16.1%
Energy, water and sanitation	28.4%	18.2%	6.8%	7.6%	27.1%	11.9%
Construction and real estate	32.0%	23.1%	13.3%	4.4%	6.7%	20.4%
Distributive trade	21.7%	25.9%	15.3%	9.0%	16.1%	12.0%
Accommodation and food services	25.1%	26.7%	14.1%	6.3%	9.4%	18.3%
Transportation and storage, information and communication	26.1%	24.6%	13.7%	5.5%	18.7%	11.6%
Other service activities	26.7%	27.5%	10.8%	6.3%	16.9%	11.6%

More than half the companies (51.2%) reported that they monitored up to 10 key performance indicators in 2016. The share of enterprises that monitored from 1 to 5 indicators was higher among younger enterprises (33.2% versus 23.7% in senior ones), among enterprises not belonging to a group (33.2% versus 20.5% in those belonging to a group) and among microenterprises (38.5% versus 15.1% in large enterprises). This situation tends to be reversed with the rising the number of monitored indicators. The share of enterprises that monitored more than 20 indicators was higher in senior enterprises (17.4% versus 7.8% in younger enterprises), in the enterprises owned by a group (24.2% versus 6.3% in those not owned by a group) and in large enterprises (32.2% versus 3.4% in microenterprises). The share of enterprises that monitored up to 5 indicators was chiefly concentrated in the Agricultural sector (40.8%), whereas those that monitored more than 20 indicators were chiefly concentrated in the Energy sector (27.1%).

The monthly assessment of key performance indicators was mostly chosen by the enterprises, and was more apparent among top managers

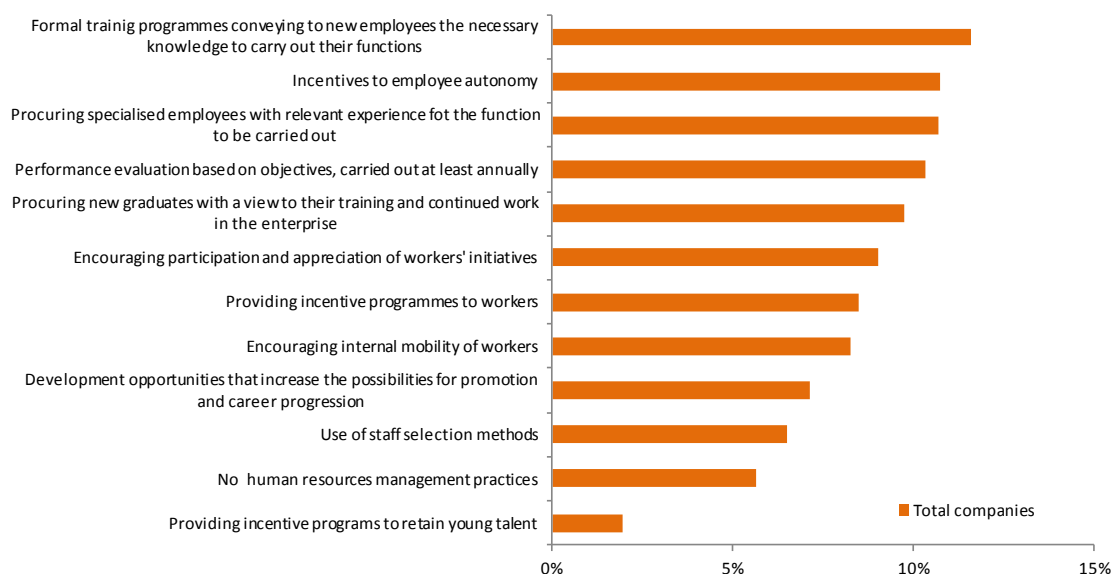
Figure 12 – Periodicity of the key indicators assessment in companies (%), 2016



More than 23% of the companies reported that employees with no management functions never assessed the key performance indicators of the enterprise in 2016. This percentage declines in line with an increase in the degree of responsibility of the employees. The assessment of the indicators on a monthly basis had the highest number of replies by the enterprises. Top managers prioritised the monthly assessment, and also had the highest percentage of quarterly and half-yearly assessments of the key performance indicators.

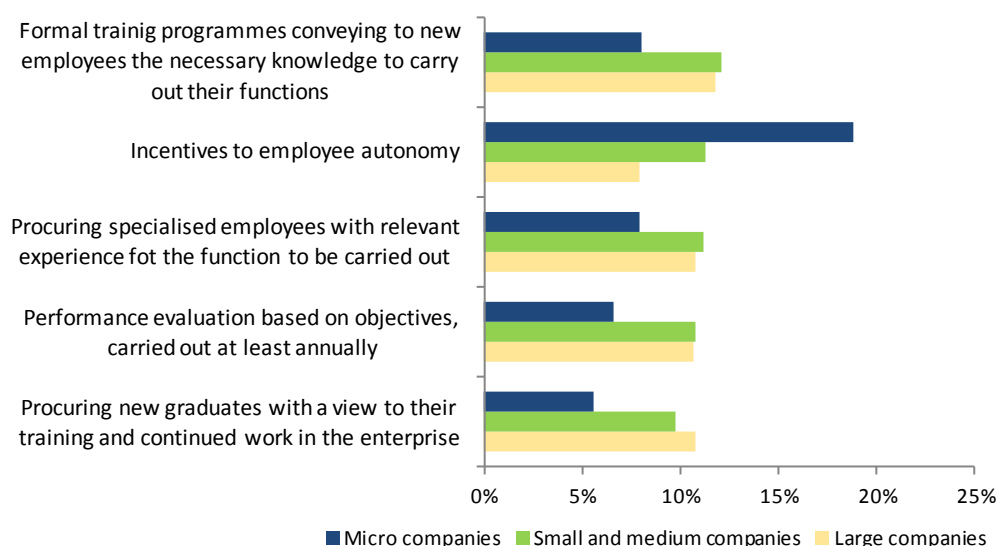
Approximately 12% of the enterprises were engaged in training programmes for new employees in 2016

Figure 13 – Human Resources management practices in companies (%), 2016



The human resources management practices to promote human capital mostly mentioned by the companies was the "Formal training programmes conveying to new employees the necessary knowledge to carry out their functions" (11.6%), immediately followed by "Procuring specialised employees with relevant experience for the function to be carried out" and "Incentives to employee autonomy" both with 10.7% of the replies.

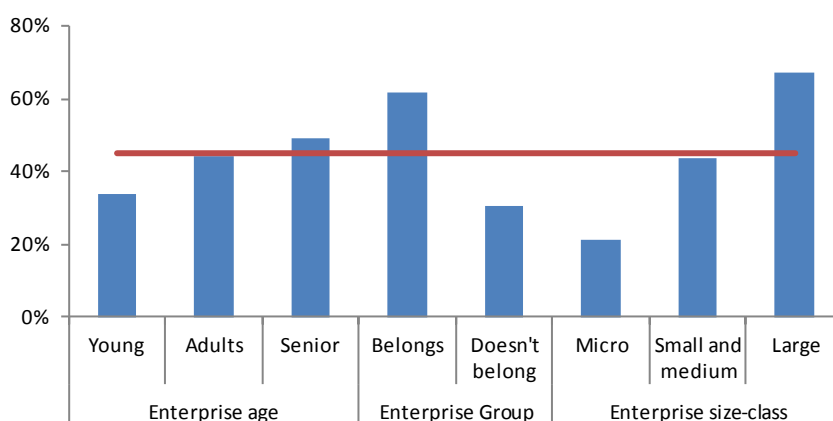
Figure 14 – TOP 5 human resources management practices, by enterprise size-class (%), 2016



Microenterprises resorted more to "Incentives to employee autonomy", with 18.9% of the replies. Large enterprises invested the most in "Procuring new graduates with a view to their training and continued work in the enterprise" (10.8% of the replies, versus 5.6% in microenterprises). Small and medium-sized enterprises valued more the "Formal training programmes conveying to new employees the necessary knowledge to carry out their functions" (12.1%) and "Procuring specialised employees with relevant experience for the function to be carried out" (11.2%).

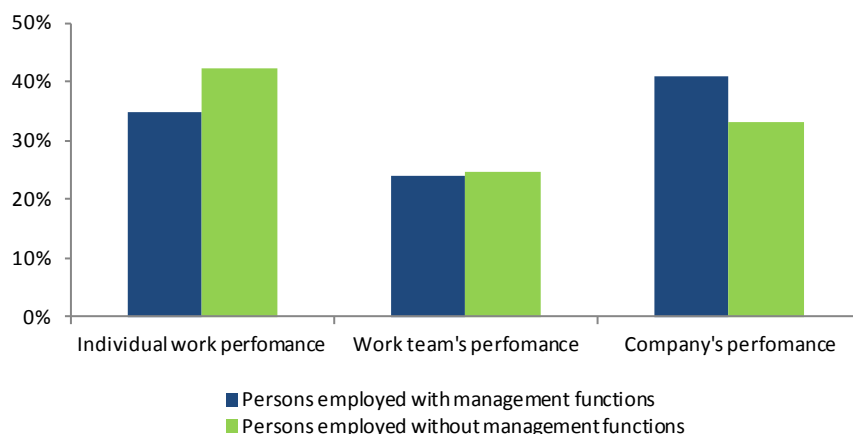
Approximately 45% of the enterprises awarded performance bonuses in 2016

Figure 15 – Companies (%) that awarded performance bonuses, 2016



In 2016 less than half (44.9%) the companies reported that they had awarded performance bonuses to their employees, as a reward for meeting the objectives defined for the enterprise. As regards companies belonging to an economic group and large enterprises, more than 60% reported that they had awarded performance bonuses (61.8% and 63.7% respectively). Bonuses awarded increased in line with the age of the enterprise (33.7% in younger enterprises versus 49.1% in senior ones).

Figure 16 – Criteria for awarding performance bonuses in companies (%), 2016



Annual performance bonuses awarded by total companies to management employees was firstly based on the performance of the enterprise, with 41.1% of the replies. Conversely, bonuses awarded to employees with no management functions were firstly based on the individual performance of each worker (42.2%) and secondly on the enterprise performance (33.1%).

In approximately 56% of the enterprises, employees with no management functions were promoted

Figure 17 – Promotion criteria of persons employed in companies (%), 2016

Aggregation	Component	Only based on performance and skills	Based both on performance and skills and other factors	Mainly in other factors	Persons employed were not promoted
Total companies					
Total companies	Persons employed with management functions	39,9%	7,5%	1,4%	51,3%
	Persons employed without management functions	44,1%	9,4%	2,2%	44,3%
Enterprise Group					
Belongs	Persons employed with management functions	56,6%	7,4%	1,0%	35,0%
	Persons employed without management functions	58,2%	9,8%	1,5%	30,4%
Doesn't belong	Persons employed with management functions	25,5%	7,5%	1,8%	65,3%
	Persons employed without management functions	31,9%	9,0%	2,8%	56,2%
Enterprise size-class					
Micro	Persons employed with management functions	18,8%	4,1%	1,6%	75,4%
	Persons employed without management functions	20,9%	3,4%	2,6%	73,1%
Small and medium	Persons employed with management functions	37,1%	6,9%	1,7%	54,4%
	Persons employed without management functions	42,0%	9,8%	2,3%	45,9%
Large	Persons employed with management functions	63,8%	11,6%	0,7%	24,0%
	Persons employed without management functions	68,1%	13,2%	1,7%	17,1%

In more than half the companies (51.3%), employees with management functions were not promoted in 2016. In around 40% of the companies, the promotion of employees with management functions was only based on their performance and skills. Conversely, the percentage of companies that promoted employees with no management functions in 2016 exceeded 55%, of which 44.1% was only based on their performance and skills.

Belonging to an economic group was a decisive factor for the possibility of a promotion being awarded by the enterprise. On average, there were promotions of employees in around 67% of the companies integrated in a group, compared with around 39% in companies not belonging to a group.

The promotion of employees was commensurate to the enterprise size: the bigger the size, the higher the share of enterprises reporting promotions of employees (on average, around 80% of large enterprises promoted their employees, compared with around 26% in microenterprises).

Companies not belonging to an economic group showed the highest gap between employees that were not promoted in 2016, 9 p.p. more in employees with management functions than in employees with no management functions. In small and medium-sized enterprises, this gap was also significant, with 8.5 p.p. more in employees with management functions than in employees with no management functions.

C. CHARACTERISATION OF THE TOP MANAGER RESPONSIBLE FOR THE INFORMATION

Top managers were active respondents to the Survey on Management Practices

Figure 18 – Characterisation of the person responsible for the information (%), 2016

Function of the person responsible for the information, by category	Weight in total			Enterprise size-class		
	Answers	Persons employed	Turnover	Micro	Small and medium	Large
Director / Chairman	29,6%	32,5%	38,0%	14,7%	31,8%	36,3%
Chief Financial Officer and Executive Administrative Officer	17,0%	29,7%	25,8%	4,6%	16,1%	29,3%
Chief Executive Officer	11,6%	24,8%	26,0%	4,5%	9,8%	21,8%
Manager / Partner / Partner-Manager	34,3%	7,7%	4,4%	67,9%	34,6%	6,5%
Certified accountant	3,5%	2,7%	2,3%	3,7%	3,8%	2,6%
Assessor/Auditor/Consultant	0,9%	1,4%	2,1%	0,3%	0,7%	1,8%
Operations director	1,2%	0,5%	0,8%	0,8%	1,4%	0,9%
Without management functions	1,7%	0,3%	0,6%	3,3%	1,7%	0,7%
Not specified	0,1%	0,4%	0,1%	0,1%	0,1%	0,1%
TOTAL	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%

Enterprise Top Managers were active respondents to the Survey on Management Practices. Based on the replies obtained to the item "Function of the enterprise top manager", an aggregation was carried out of the categories of functions of those responsible for the information reported to Statistics Portugal. The following categories were considered "Top Management employees": Director/Chairman, Manager/Partner/Partner-Manager, Chief Financial

Officer and Executive Administrative Officer, Chief Executive Officer. The following categories were considered “Top manager”: Director/Chairman, Manager/Partner/Partner-Manager.

Based on the results obtained, the “Top manager” of the enterprise was the information source in 64.0% of the responses, corresponding to 40.3% of the total number of enterprise employees. This percentage rose to 92.6% when considering the whole “Top Management employees”, corresponding to 95% of the total number of enterprise employees.

Empirical evidence indicates that management practices are important for the economic performance of the enterprises

The Survey on Management Practices has made it possible to obtain relevant information on different aspects of enterprise management in Portugal. It is difficult to gather the whole wealth of information obtained in a synthetic indicator which makes it possible to establish a link between management practices and economic performance. In any case, based on an indicator created by experts in the US *Census Bureau*, from a similar survey made to around 32 thousand enterprises in that country, available at <https://www.census.gov/en.html>, an *ad hoc* indicator was built, hereinafter referred to as *gscore*.

The *gscore* obtained for each enterprise through the simple average of the scores allocated to the replies to 23 questions of the survey (see list in the technical note). The score of each reply ranges from 0 to 1, the maximum value being allocated to the reply option corresponding to the most structured practice and the minimum value to the least structured. Where there are more than two reply options, the intermediate options, after being listed in ascending order in terms of management practice quality, receive uniform scores with intermediate values between 0 and 1. Thus, where there are three options, the worst one will receive a null score, the intermediate option will be scored with 0.5 and the best one will receive the score 1. Where there are four options, these will be scored in ascending quality order, receiving 0, 1/3, 2/3 and 1 scores. The *gscore* will thus correspond to a scale from 0 to 1.

In order to understand the relevance degree of the *gscore* in economic performance, a linear regression was tested, in which the dependent variable was the (natural logarithm of the) Gross Value Added per worker in every enterprise, that was taken as the economic performance indicator, where the *gscore* was included among the regressors. Underlying this regression there is the following production function:

$$(1) \quad Y_i = AK_i^\alpha L_i^\beta e^{\gamma g_i} \prod_j e^{\delta_j x_{i,j}}$$

Where Y_i corresponds to the GVA of enterprise i , A , α , γ and δ_j are the parameters, K_i is the capital of enterprise i (proxied by the net value of the non-current assets), L_i corresponds to the employment level in enterprise i (proxied by the number of employees - NPS), g_i is the *gscore* of enterprise i , and $x_{i,j}$ is the value associated with a j characteristic of enterprise i .

The characteristics considered are divided into two groups. The first group includes the characteristics associated with the *dummy* variables with value one or zero, depending on whether or not the characteristic in question of enterprise *i* is observed. This group comprises the following characteristics: age of the enterprise (*young* – less than 5 years of age and *adult* – from 6 to 19 years of age); ownership by a corporate group (*group*); size of the enterprise, according to the statistical classification of *micro* or *large* (this classification is simultaneously based on employment level and turnover); having an exporting profile (*p_export*). The second group comprises, for every enterprise, the following characteristics: ratio of employees having at least a graduate degree to the total (*% hab_sup*), average employee seniority (*antig*), measured in years of enterprise service, and natural logarithm of the employees (*ln(NPS)*) and asset per employee (*ln(asset/NPS)*).

When divided by L_i and applying natural logarithms to (1), we obtain the following expression (2) which was taken as a reference for the linear regression with the ordinary least square method carried out with 3,620 observations corresponding to the enterprises with positive GVA, for which it was possible to gather information on all characteristics considered.

$$(2) \quad \ln\left(\frac{Y_i}{L_i}\right) = \ln(A) + \alpha \ln\left(\frac{K_i}{L_i}\right) + (\beta + \alpha - 1) \ln(L_i) + \gamma g_i + \sum_j \delta_j x_{i,j}$$

The table below indicates the results obtained.

Table 1: Results obtained from the linear regression

	$\ln (GVA / NPS)$ N = 3,620 $R^2 = 0.43393$		
Variable	Coefficients	t Stat	P-value
<i>ln(A)</i>	8.81	94.83	0.00
<i>gscore</i>	1.68	14.51	0.00
<i>young</i>	-0.02	-0.37	0.71
<i>adult</i>	0.06	1.82	0.07
<i>group</i>	0.20	6.86	0.00
<i>micro</i>	-0.52	-12.47	0.00
<i>large</i>	0.52	11.33	0.00
<i>p_export</i>	0.09	3.38	0.00
<i>ln(asset/NPS)</i>	0.13	21.23	0.00
<i>% hab_sup</i>	0.92	15.70	0.00
<i>antig</i>	0.02	6.79	0.00
<i>ln(NPS)</i>	-0.27	-18.52	0.00

These results indicate that the variable associated with the quality of Management Practices (*gscore*) has a significant influence over the economic performance indicator considered.

The specification and the estimator used may naturally be improved, particularly with a view to identifying cross effects between regressors and taking into account the statistical properties of the residual random variable underlying the application of the estimation method based on expression (2). Also, the economic performance indicator may be different, depending on the specific analysis objectives, and other management quality indicators may be set up.

In that vein, under conditions that safeguard statistical secrecy, Statistics Portugal is building a database of information collected by the survey, to be made available to interested researchers.

Nonetheless, it is important to mention that the strong indication obtained from the relevance of management practices for the economic development of the enterprises is in line with the results obtained from the above-mentioned similar survey in the USA.

In addition, also taking as a reference equation (2), regressions were used for subsets of enterprises, considering their individual characteristics. For instance, in the case of the 522 “young” enterprises, the regression coefficient of the *gscore* is 1.25 and the t statistic associated is 3.67, indicating that this variable is relevant to explain the behaviour of the (natural logarithm of the) ratio of GVA to employees in this subset. The following table shows that, in all cases considered, the *gscore* variable is very significant.

Table 2: Results obtained from the linear regression, by characteristic

Characteristic	ln (GVA / NPS)		
	<i>gscore</i> coefficients	t Stat	P-value
Enterprise age			
Young (N = 522)	1.25	3.67	0.00
Adults (N = 1,371)	1.80	8.86	0.00
Senior (N = 1,727)	1.63	10.70	0.00
Enterprise size-class			
Micro (N = 664)	1.56	4.88	0.00
Small and medium (N = 2,089)	1.64	11.01	0.00
Large (N = 867)	1.13	5.39	0.00
Enterprise Group (EG)			
Belongs (N = 1,670)	1.91	11.16	0.00
Does not belong (N = 1,950)	1.42	9.16	0.00
Exporting profile			
Yes (N = 1,245)	1.49	8.16	0.00
No (N = 2,375)	1.81	12.21	0.00

Methodological note:

The purpose of the Survey on Management Practices is to acknowledge the perception of top management employees as regards the Management Practices of the enterprises they manage, and to assess the importance of those practices in enterprise productivity and other key indicators that make it possible to assess the existing productivity differences among Portuguese enterprises and, at a subsequent stage, among the different countries.

The target population in this survey covers active non-financial corporations having their head office in Portugal, classified in sections A to S (excluding sections K and O) of the Portuguese Classification of Economic Activities, Revision 3 (CAE-Rev.3), excluding microenterprises with less than five employees.

The sample basis took into account non-financial corporations active in 2016, excluding microenterprises with less than five employees. A random sample was selected of 4,469 enterprises, representative of: activity sector, enterprise size, either or not owned by an economic group and enterprise age. For the purpose of this study, 3,875 valid replies were considered, corresponding to 86.7% of the whole sample.

For dissemination purposes, the following was considered:

A) Eight Economic activity groups: Agriculture, forestry and fishing (section A of CEA Rev.3), Mining and quarrying and Manufacturing (sections B and C), Electricity, gas, steam and air conditioning supply and Water supply; sewerage, waste management and remediation activities (sections D and E), Construction and Real estate activities (sections F and L), Wholesale and retail trade; repair of motor vehicles and motorcycles (section G), Transportation and Storage and information and communication (sections H and J), Accommodation and food service activities (section I) and Other service activities (sections M a S);

B) Three enterprise size groups: Microenterprise ($5 \leq$ employees < 10 and Turnover \leq €2,000,000); Small and medium-sized enterprise ($10 \leq$ employees < 250 and turnover \leq €50,000,000) and Large enterprises (employees ≥ 250 or Turnover $>$ €50,000,000);

C) Three enterprise age groups: Young ($1 \leq$ years ≤ 5); Adult ($6 \leq$ years ≤ 19) and Senior (Years ≥ 20);

D) Either or not owned by a group of enterprises.

In this study, the corporations considered to have an **exporting profile** were those which exports goods and services and meeting the following criteria: (i) Corporations in which at least 50% of turnover is sourced from exports of goods and services, or (ii) Corporations in which at least 10% of turnover is sourced from exports of goods and services and the value of exports of goods and services exceeds €150 thousand.

Major concepts:

Management Practices: Refer to methods and techniques used by enterprise managers in order to improve the efficiency of the labour systems and optimise the use of the enterprise's resources. Some of the Management Practice examples include motivation, support and training of the employees, and the introduction of quality improvement programmes, inter alia.

Read more: <http://www.businessdictionary.com/definition/best-management-practice-BMP.html>

Employees with management functions: Covers an individual and/or individuals who, in the reference period, participated in the activity of the enterprise, performing planning, organisation, leadership and control functions.

Employees with no management functions: Covers an individual and/or individuals who, in the reference period, are under the responsibility of managers within the enterprise organisation structure.

Employees with top management functions: Covers the top manager and the different senior managers directly reporting to them. Usually, these senior managers are responsible for ensuring the management of functions supporting the main business, especially marketing, finance, transactions, human resources and information technologies.

Employees with intermediate management functions: Covers an individual and/or individuals who, in the organisational structure, are at an intermediate level between top managers and hierarchical base managers. Their main role consists in receiving top management plans and implement them in their department, unit, division or section, aligning the organisational initiatives with the strategic objectives.

Employees with operational management functions: Covers an individual and/or individuals with the lowest management function in hierarchical terms. In the organisational structure of the enterprise, they fall immediately above employees with no management functions and below all other managers. They are also known as supervisors, heads of division, team leaders or line managers.

Top manager: Individual who, in an enterprise, occupies the top of the hierarchical structure, and is not subordinate to any other individual. The top manager is responsible for the achievement of the enterprise mission, by establishing strategic objectives and the strategies to attain them, as well as for the integration of the different functional areas within the enterprise. He is very often known as CEO (Chief Executive Officer).

Survey:



Inquérito às Práticas de Gestão

The questions used to calculate the *gscore* were the following in Module B – Management Practices: 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54 and 55.

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