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A Qualitative Case Study on the Use of Balance Scorecard to Control Performance of a Local Government-Owned Water Supply Company in Indonesia

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Abstract

This paper discusses how the Balance Scorecard is applied in a water supply company in Indonesia. The company investigated in this study was a local government-owned water supply company is responsible for generating profit, as well as having a social function. Performance becomes an important issue in this type of company, not just from the financial aspect, but also regarding non-financial performance. This research was a longitudinal case study. By applying ethnography, the researcher participated in the process of controlling performance while performing the research, where the case company modified the four perspectives of Balance Scorecard into four aspects of performance, i.e., financial, service, operational, and human resource performance aspects. This modified balance scorecard was used to control people in achieving their targeted performance. A management control system model was then used as a tool and mechanism to control performance.

Keywords: Case study, ethnography, management control systems, balance scorecard, performance

1.0 Introduction

Regional autonomy applied in Indonesia persuades the local government to increase regional income through local government-owned companies. In Indonesia, there are two levels of local government, i.e., the provincial level and the district level. Hence, local government-owned companies might be owned by provincial local government, district local government, or jointly owned by provincial and district local governments. There are some typical companies owned by the local government, such as regional bank, rural bank/ rural credit firm, hospital, and water supply companies.

This research focused on a water supply company for several reasons. Firstly, most of local governments in Indonesia own this type of company. Political and cultural

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conditions in Indonesia are varied from one local government to other local government, so this would enhance the uniqueness of the research context. Secondly, there are similarities of the performance measurement method applied by water supply companies in Indonesia. Thus, the case company studied is comparable to other water supply companies in Indonesia, which enable the researchers to compare and contrast such practices. Thirdly, water supply companies have a very strategic position since water is a human basic need. Because water supply companies deal with human basic need, water supply companies in Indonesia carry a social mission as well as having a profit generation mission. As a profit motive organisation, the company should be managed professionally like public firms in general, while as an organisation with a social mission, the company should obey the regional rules that sometimes are not in line with profit motive principles. Regional rules vary from one region to another, in accordance with the social and political conditions of the specific region. Local government-owned companies shoulder a responsibility to achieve a certain profit level as contribution to the regional income, but the social mission should be the priority. Thus, the water supply company is a unique business in the Indonesian context. Fourthly, in some local governments, there are some indications that local government-owned companies operate with some intervention from local government officers, political parties, and other parties. Therefore, the company should be equipped with strong management control systems to guard the company from such interventions.

As a company that carries the social responsibility as well as a profit generation mission, performance measurement systems that can accommodate these two missions will be very important and helpful to the water supply companies in fulfilling both objectives. In the past, each water supply companies in Indonesia can choose their own method of performance evaluation. However, since 2007 all water supply companies in Indonesia adopted the balanced scorecard as their performance measurement system. Consequently, the companies now have an obligation to report their performance to the national body that assists the development of water supply systems in Indonesia, called "*Badan Pendukung Pengembangan Sistem Penyediaan Air Minum*" (BPPSPAM), or roughly translated as the Drinking Water Preparation System Development Supporting Body. The performance of water supply companies in Indonesia is evaluated at least once a year and that evaluation produces a score for each water supply company. Based on that score, water supply companies will be categorised as a healthy company, less healthy company, or not healthy company. The performance score of the companies is published publicly and used to evaluate the performance of the company's management team. Thus, controlling performance becomes an important aspect for a water supply company in Indonesia.

Concerning the management control systems (MCS), the MCS is applied in a company to ensure that the targeted performance can be achieved. MCS is an organisational device that helps the management team of an organisation to monitor and control the implementation of strategies that need to be achieved according to their scheduled plan. This control could be in the form of formal and informal control (Anthony

& Govindarajan, 2007) and can be in the form of result, action, and people control (Merchant & Van der Stede, 2012).

This research used an approach that had been developed by Merchant and Van der Stede (2012) who suggested that a good control should cover three types of control, which is result control, action control, and people control. These three control systems complete each other with a variation that is in harmony with the management philosophy (Praptapa, 2009).

2.0 Theoretical Background

This paper applies the Balanced Scorecard and the Simons' (1995) Levers of Control (LC) frameworks to explain the findings, as there is "no single theory can have a monopoly on explanations of accounting and organisational practices" (Hoque et al., 2013, p. 1171). Modell (2015, p. 1139) added that "each theory has its unique strengths and weaknesses and the combination of multiple theories generally yield a more complete picture of complex empirical phenomena".

The success of a performance management and control system applied in any organisation depends on various factors. The effectiveness of MCS is contingent on its design and implementation process (Woods, 2009). "The term contingency means that something is true only under specified conditions" (Chenhall, 2003, p. 157). In contingency theory, MCS should best suit to the nature of the environment, technology, size, structure, strategy, and national culture (Chenhall, 2003). Thus, this case study applied this theory to explain the factors affecting success of balance scorecard (BSC) implementation in the case company.

This study explored how the operations in the case company become its' working culture. This can be explained by institutional theory. The process of institutionalisation starts with the availability of accounting rules and routines, the actors enact those routines so repeated behaviour and routines are reproduced, and finally accounting routines become patterns of behaviour and unquestioned ways of doing things, and then they are institutionalised (Burns & Scapens, 2000; Ribeiro & Scapens, 2006).

Additionally, the Simons' (1995) Levers of Control framework was used to explain how management control systems is best used to control performance. This framework consists of (1) core value, that can be controlled by belief systems such as vision statement, mission statement, credos, and statement of purpose; (2) risks to be avoided, that can be controlled by a boundary system such as code of conduct, predefined strategic planning method, asset acquisition regulation, and operational guideline; (3) critical performance variables, that can be controlled by diagnostic control systems such as measurement, valuation standard, incentive system, and compensation system; and (4) strategic uncertainties, that can be controlled by interactive control systems such as incorporating process data into management interaction, face-to-face meeting with employees, challenging data, assumptions, and action plans of subordinates.

3.0 Ethnographic Case Study

This research was an ethnographic research. Ethnography deals with people and it means a description of people. Ethnography is a way of studying people in a collective sense, in organised, enduring groups, which may be referred to as communities or societies (Angrosino, 2007). Furthermore, Angrosino (2007) defined ethnography as the art and science of describing a human group—its institutions, interpersonal behaviours, material productions, and beliefs.

Ethnography can be viewed as a method for collecting data and as a fieldwork (Brewer, 2010), as a written result of fieldwork, or even as a synonym for qualitative research (Brewer, 2010). Brewer described ethnography as a method for collecting data and as a fieldwork with the definition as follows:

Ethnography is the study of people in naturally occurring settings or 'fields' by methods of data collection, which capture their social meaning and ordinary activities, involving the researcher participating directly in the setting, if not also the activities, in order to collect data in a systematic manner but without meaning being imposed on them externally (Brewer, 2010, p.10).

In this case study, the researchers acted as a participating observer. The advantage of “participant as observer” is that the researcher can obtain key “insider” information and enable the researcher to validate the observation with the participants while observing, interpreting, and recording the data (Roper & Shapira, 2000).

The researcher was a member of the Board of Controller (BOC) in the case company for six years since 2009 until 2014. While doing the job as a member of the BOC, the researcher did some observations without being known by the research participants. Some notes, pictures, and documents were collected as data. The researcher also conducted focus group discussion with members of customer representative, visited unit and branch offices, and visited water resource installations. To accelerate the understanding of the case, the researcher also participated in training and examination programmes to get certification on water supply management. The involvement of the researcher in the day-to-day operation of the company gave opportunities to the researcher to understand the meaning of people’s activities in the organisation observed (Brewer, 2010).

Based on the rule from the Ministry of Home Affairs, the maximum period for a member to be seated as the BOC is two periods where one period is equivalent to three years. Therefore, the researcher has reached the maximum period for that position, however, the research continued even though the researcher was not an organisational member anymore. The researcher conducted interviews with the new BOC members and the management as well, to understand the current situation of the company.

4.0 Performance of the Case Company

The case company was a local government-owned water supply company or in the Indonesian language, it is called “*Perusahaan Daerah Air Minum*” (PDAM). The company is located in the city of Purwokerto, District of Banyumas, Central Java Province. The name of the company is PDAM Banyumas.

PDAM Banyumas applies performance measurement that adopts the concept of balance scorecard with its four perspectives of performance, i.e., financial, customers, internal business, and learning and innovation performance metrics (Kaplan & Norton, 1992). The four perspectives of balance scorecard were adopted and modified in the company into four aspects of performance measurement, i.e., financial, services, operations, and human resources.

Based on the industry’s regulation, the performance of water supply companies can be categorised into healthy, less healthy, and unhealthy. A water supply company is categorised as healthy if the performance total score is more than 2.8 out of the maximum of 5.0. If the performance total score is between 2.2 and 2.8, the water supply company is categorised as less healthy. The water supply company is categorised as unhealthy if the performance total score is less than 2.2 (BPPSPAM, 2014).

The performance of PDAM Banyumas that uses the modified balance scorecard is presented in Appendix 1. Table 1 below shows that most of performance indicators attained maximum score of 5. However, there are some indicators that have scored 4, 3, 2, and even 1.

Table 1

Summary of Number of Indicators in Each Score from 2011 to 2014

No	Level of Score	2011	2012	2013	2014
1	Score of 5	8	9	9	5
2	Score of 4	3	3	1	5
3	Score of 3	4	1	1	2
4	Score of 2	3	4	4	5
5	Score of 1	0	1	3	1
Total number of score		18	18	18	18

In each year from 2011 to 2014, half of the indicators were still below 5. This means that there are still much room for improvement. Even in year 2013, there were three indicators with score of 1, which were customer growth, water meter replacement, and

employee training ratio. The management should pay attention to these indicators that have low scores.

Responding to the issue of some indicators that were still very low, the Executive Director of PDAM Banyumas explained:

“We realised that those indicators must be improved. We pay attention on them. However, the most important to us actually is that we still maintain our status as a healthy company”. (Executive Director).

Thus, the status as a healthy company for the management of PDAM Banyumas is more important rather than just the score. This can be understood as the BPPSPAM publishes the Audited Performance Report that merely reports about the status of the company performance, namely whether they are in a healthy, less healthy, or unhealthy status every year. Rank of performance of PDAMs in Indonesia is not available in that report.

However, one of the members of BOC explained that the management of PDAM should pay attention to the fluctuation of the performance score:

“We pay attention on the score that decrease or still low. We cannot neglect them [low score] since in the long-term they may influence other indicators. Actually, many of them are controllable by us, why don't we make a better score on them?” (BOC5).

5.0 Management Control Systems (MCS) of the Case Company

Observations of the company's management control systems revealed that the company uses the control system elements mentioned by Merchant and Van der Stede (2012), that are the result control, action control, and people control mechanisms, as discussed below.

5.1 Result Control

Result control is a control mechanism that aims to ensure that the people within the organisation will achieve their expected result (Merchant & Van der Stede, 2012). The elements in result control as stated by Merchant and Van der Stede are defining performance dimension, measuring performance, setting performance target, and providing reward or punishment. In PDAM, its expected results are reflected in its objectives that are stated in the Regional Rule No.22/2014 Chapter 3, Article 6, as follows:

“(1) PDAM TS provides service to the society to enable them to have access to the clean water fairly and continuously; (2) PDAM TS supports and encourage the regional

economic development through providing clean water and (3) PDAM TS increases regional income through providing clean water that is managed based on economic principle.”

Therefore, based on that Regional Rule, the main objective of PDAM is to ensure the distribution of clean water to the community, while generating profit to be shared to the local government becomes the second priority. This is consistent with the briefing from the Regent, to the management and the board of controllers of PDAM Banyumas. The Regent said that:

“We need profit. But profit is not the number one. Our priority is to increase water distribution to society as many as possible. I prefer your performance on service coverage increase rather than the profit increase. But what I like the most is if you all can increase the service coverage and increase the profit as well” (Regent of Banyumas, in a briefing in 2014).

Another result control element practised by PDAM is the target setting process. Setting performance target is an important step to make sure that the expected result can be achieved. The target must be challenging but achievable (Hitt et al., 2011), so the target itself can motivate management and its organisational members to do the best for the company. A member of BOC explained:

“We review the performance target proposed by management. We do not just review the number but we also evaluate the mechanism of setting the target, whether the mechanism consistent with the rule or not. It must be bottom up. We find that management has a tendency to follow last year target with some modification. We did not find performance target that is defined based on research or recalculation” (BOC5).

Reporting the performance is another crucial element for a performance management and control system applied in PDAM. The BOC member explained about the performance report as follows:

“Every three months we receive report from the management, but the report is very general, that is how many percent the target is achieved. Unfortunately, that report is still limited to the percentage of the usage of the budget, not the report about result or outcome of the budget usage” (BOC5).

He added:

“We are aware that as BOC we do not review the report very detail one by one, but we guarantee that we review the important items. For example, items that the usage level of budget are very low or very high, or items that is sensitive in the eyes of public” (BOC5).

To avoid “lack of direction”, Merchant and Van der Stede (2012) stressed on the need for everyone in the organisation to know his or her target. In responding to the question whether everyone in the organisation has a clear target, a member of BOC mentioned:

“If your question is ‘everyone’ I cannot guarantee if everyone has one. But I am sure every organisational unit or the head of unit knows well what is his/her target. Performance target is reflected in the budget. We understand that when the usage of budget is in target so automatically the performance target is reached. But at least, we know how far the work has been done” (BOC5).

A member of BOC explained how the management ensures that organisational members know their performance as:

“We never test to all employees whether they know their target or not, but what we do is raise the issue that we place performance as a very important issue. The achievement in meeting target will be used as our note whether the management is successful or not in doing the job. Performance target achievement will affect bonus, whether bonus will be paid or not. What we mean about performance here is company performance, not individual performance” (BOC5).

There are some factors obstructing the achievement of a target. These can be external or internal factors. Example of an external factor is a long dry season (drought). The Executive Director explained that:

“Most of obstacles are external factors that are uncontrollable by us. For example, when we have long dry season. Factors that are controllable by us usually can be overcome quickly and we can reach the target” (Executive Director).

How PDAM overcomes the obstacle is explained as follows:

“Firstly, we have to be quick to inform what we are facing to society. It must be in a right way too. For example, if we predict that we will have long dry season, we have to inform the society as early as possible about the possibility of dry season and its effect to our services. Technically, we also face the problem of scarcity of water sources, so we need new water processing installation. It needs a lot of money but we plan to make it to reduce our dependence to the nature” (Executive Director).

It was also explained by the Executive Director that there are many obstacles related to the distribution of clean water such as leaking pipes, stolen water, and customer complaints about water continuity. *“If we respond to the complaints quickly the problem usually will be solved quickly as well”* added the Executive Director.

5.2 Action Control

Another form of control applied by PDAM is action control, which is a form of control to ensure that employees perform actions that are advantageous for the firm and avoid

actions that are disadvantageous for the firm. Most action controls aimed at preventing undesirable behaviours (Merchant & Van der Stede, 2012). Action accountability is a principle that maintains employees to be accountable for every action they take (Merchant & Van der Stede, 2012). "Accountability should be linked to personal perceptions of responsibility and interwoven with a personal value system" (Knouse, 1979, p.58). Knouse (1979) mentioned that accountability results from a contractual agreement in which the subordinate performs services in return for certain rewards. Action accountability requires the organisation to define what actions are acceptable or unacceptable, to communicate these definitions to employees, to observe or track what happens, and to reward good actions and punish actions that deviate (Merchant & Van der Stede, 2012).

To ensure that organisational members perform the right action, the management of PDAM uses a responsibility centre as a point to observe what and how people do their task. The head of unit is responsible for the work of his/her subordinates. There is a considerable number of Standard Operating Procedures (SOPs) in PDAM, and most of them are for the technical work. The SOP is used to guide people to work correctly.

Some action control strategies such as the use of lock, password, direct observation, supervision, periodic tracking, and activity report are used in PDAM. Pre-action review is used also to ensure that people have the right plan in doing their job. The Director of Techniques explained:

"Before my people do important work, they must make a plan and the plan should be discussed with their leader and in many cases with me. This is important to make sure that their plan is right, the connection with other sections is well planned and communicated, and the important thing is we can make revision or adjustment or suggestion when needed" (Director of Techniques).

5.3 Personnel Control

Thirdly, PDAM also utilised the personnel control mechanism. Merchant and Van der Stede (2012) recommended the use of people control to ensure that employees will control their owned behaviours (personnel control) and control each other's behaviours (cultural controls). Personnel controls build on employees' natural tendencies to control themselves because most people have a conscience that leads them to do what is right and find self-satisfaction when they do a good job and see their organisation succeed. Personnel control is about "finding the right people, giving them a good work environment and necessary resources". Personnel controls include: (1) the selection and placement to find the right people to do a particular job, (2) training to give employees a greater sense of professionalism and create interest in the job by helping employees to understand their job better, and (3) providing the job design and provision of necessary resources so that motivated and qualified employees have a high probability of success (Merchant & Van der Stede, 2012).

A member of BOC is confident that employees of PDAM have enough competencies and motivation to do their job properly. He mentioned:

"I am sure [with people competence and motivation]. Our recruitment process is open and fair. Even though we have old employees that at that time the process of their recruitment was not as good as now, but they are selected naturally. The one who can survive goes on, if not they will remain stay in their position with no progress" (BOC5).

The management effort to increase employees' competencies is reflected in the following comment:

"For sure we do some activities to increase employees' competencies. This is an important thing. Even, this is one of the elements in performance measurement. If the management does not send its people to do training, the score will be bad" (BOC5).

The mechanism that is used by PDAM to ensure that employees perform well in doing their job is reflected in the following statement:

"We have job description and SOP. I think they are guideline for all employees. Management for sure doing some improvisation to evaluate whether employees work well or not. It does not always deal with a quantitative formula, but the satisfaction of leaders [about their sub-ordinate's work] is also an indicator whether their people work well or not" (BOC5).

In the above statement, the BOC member shows that some subjective measures are also used in the company. He added:

"We are human. Not everything can be measured quantitatively. There are some aspects such as taste, style, impression etc. that may be difficult to be measured objectively. Is it wrong?" (BOC5).

The last statement with the question "is it wrong" indicates that the member of BOC is not sure whether the subjective performance evaluation can be used or otherwise.

5.4 Cultural Control

Finally, PDAM applied the elements of cultural control in its control system. Cultural control or mutual monitoring deals with social pressure, and group norms and values. Cultural control is effective when members of a group have emotional ties to one another (Merchant & Van der Stede, 2012). Furthermore, Merchant and Van der Stede (2012) suggested that excellent work culture can be shaped through five means, that are: (1) by having the code of conducts, (2) through group-based rewards, (3) using the intra-organisational transfers, (4) via the physical and social arrangement, and (5) through the "tone at the top".

One of the cultural control elements use at PDAM is the existence of its vision and mission statements. The vision and mission of PDAM Banyumas are written at the main entrance of the office. The purpose of putting these statements at the public entrance is to make every organisational member remember and understand their vision and mission. It was also uploaded to the company website that can be accessed at www.pdambanyumas.com.

The vision of PDAM Banyumas is “to be a professional PDAM with very good and satisfied performance and continuously developed”. The missions of PDAM Banyumas are:

- 1) Supplying clean water that meet minimal standard of service to Banyumas District society by continuously increase the service coverage.
- 2) Conducting company’s management professionally by increasing competence, welfare, human resource solidity, GCG implementation and applied technology, services that prioritise customer satisfaction, and continuously increase company profit.
- 3) Conducting preservation of water resource and environment, and corporate social responsibility to ensure the going concern of water supply business.

In addition to the above control elements, intra-organisational transfer is routinely conducted by considering the competence of the organisational member. People are promoted only when they have capacity to be in charge in a new position. Since PDAM Banyumas has several branches, the intra-organisational transfer can be among these branches.

Furthermore, the physical and social arrangements are always improved, which can be seen in the physical development of customers’ facilities. The company installed some free drinking water terminals in public places. This increases the pride of employees since there is no free drinking water terminal before in the district of Banyumas. Providing free drinking water also makes everyone in the company aware that company’s product is very important for society, so the company must supply good water.

Moreover, another element of physical and social arrangement that is provided by PDAM is the availability of drive-through payment system, which gives the impression that the company tries to understand its customers better since now more people drive. The online payment also indicates that the company tries to accommodate its customers more by providing convenient payment options. These “quick service” facilities are useful to motivate people to work more quickly.

Finally, the top management are always the model to the subordinate. They set the tone at the top which is very important to influence how people work and behave. All directors get a car facility. The name of the company must be printed to the company’s cars used by the directors. This act as a symbolic sign that everyone in the company must set apart their personal belonging from the company’s assets.

Since the location of PDAM Banyumas is in central java, most of its employees are Javanese. The tone at the top is consistent with the Javanese philosophy of “*ing ngarso sung tulodo, ing madyo mbangun karso, tut wuri handayani*”. The meaning of that philosophy is “leaders if they are in the front must be as an example, if they are in the middle must create the spirit for their people, and if they are at the back, they must be able to understand the will of their people”.

However, among all, the group-based reward is currently not applied in PDAM. The company-wide bonuses are shared to all employees based on the composition of salary. In other words, the amount of bonus paid to employees is a certain percentage of the monthly salary of each employee. The higher the salary the higher the amount of bonus they are entitled to.

6.0 Conclusion

This paper discussed the performance management of PDAM Banyumas and how MCS is applied to maintain or enhance performance. The company has general performance measurement and unique performance measurement as well. The general performance measurement that is modified from the Balance Scorecard framework is compulsory to be applied by all PDAM in Indonesia. Unique performance measurement is usually more detailed and some of them are applied together with some subjective performance evaluation. This is due to the fact that not everything can be quantified.

The result control, action control, personnel control, and cultural control are applied together to ensure that company goals can be achieved. The MCS applied in PDAM gives some insights of the application of MCS in this particular company. The case enriches the knowledge of MCS and its relation with performance management system within an organisation. Furthermore, the existence of intervention in the management process (i.e., the use of BSC that has become compulsory) and how the management uses the MCS to deal with that intervention is one of the contributions of this paper for the development of a better MCS.

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Appendix 1: Performance of PDAM Banyumas in 2011 to 2014.

No	Aspects	Indicator	Year							
			2011		2012		2013		2014	
			Cond.	Ser.	Cond.	Ser.	Cond.	Ser.	Cond.	Ser.
1	Financial	1. Return on Equity	12%	5	11%	5	9.5%	4	7.4%	4
		2. Operational Ratio	0.8	3	0.8	3	0.8	3	0.9	2
		3. Liquidity (cash ratio)	757.3%	5	223.5%	5	882.3%	5	689.8%	5
		4. Collection Effectiveness	90.4%	5	90.8%	5	99.8%	5	86.0%	4
		5. Financial Leverage	305.1%	5	863.6%	5	1,360.7%	5	3328.5%	5
		Weighted Performance	1.14		1.14		1.09		0.98	
2	Services	1. Service Coverage	24.8%	2	24.0%	2	24.4%	2	24.4%	2
		2. Customer Growth	8.8%	4	3.6%	1	2.8%	1	5.7%	2
		3. Rate of Complaint Handled	100%	5	100%	5	100%	5	70.7%	4
		4. Water Quality	83.9%	5	89.3%	5	82.9%	5	72.4%	4
		5. Water Consumption (m3/customer/month)	18.5	2	19.4	2	19.3	2	19.0	2
		Weighted Performance	0.90		0.75		0.75		0.70	
3	Operational	1. Production Efficiency	74.4%	3	66.8%	2	60.9%	2	65.2%	2
		2. Non-Revenue Water (NRW)	33.2%	3	26.5%	4	21.6%	5	24.1%	5
		3. Service Operation Hours (hour/day)	24	5	23	5	23	5	23	5
		4. Water Pressure (> 0.7 BAR)	80.0%	4	81.6%	5	81.3%	5	76.9%	4
		5. Water Meter Replacement (% of customer)	17.5%	4	17.2%	4	4%	1	3.8%	1
		Weighted Performance	1.34		1.41		1.28		1.20	
4	Human Resources	1. Employees to Customer Ratio	3.3	5	3.2	5	3.0	5	4.4	5
		2. Employees Training ratio (people/1000 customer)	46.8%	3	75.2%	4	17.8%	1	57.9	3
		3. Training Expenses to Wages and Salary Ratio	5%	2	4.7%	2	3.3%	2	5.2%	3
		Weighted Performance	0.55		0.59		0.47		0.59	
	Total Score of Performance Category		3.93	Healthy	3.89	Healthy	3.59	Healthy	3.47	Healthy

Source: BPPSPAM (2014).

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