

SUSTAINABILITY AND BALANCED SCORECARD: THE CASE OF SMALL AND MEDIUM ENTERPRISE IN VIETNAM.

Tran Thi Nga, MSc

Tran Thu Trang, BA

Abstract

Business community plays a vital role in response to sustainable development announcement of United Nations. Linkage sustainable development with enterprise's strategy is the method to ensure the "green development" to be implemented. Therefore, the measures of sustainable development should be included in the enterprise's performance evaluation. The paper reviews three combination methods for sustainable development and balanced scorecard – the efficient tool for strategy execution and performance measure. The three approaches include combining sustainable measure throughout the four perspectives, inserting a fifth perspective to the balanced scorecard and building a separate sustainability balanced scorecard. The case study approach will be applied for building eco-balanced scorecard for a small and medium company in Vietnam – Bac Dau Limited Company. The findings for the first time applying eco-balanced scorecard for this company is discussed in the effort of performance evaluation and improvement. This study contributes to increase the awareness of sustainable development and guidelines for non-applied balanced scorecard companies.

Keywords: balanced scorecard, sustainable development, performance measure, eco-balanced scorecard.

1. INTRODUCTION:

In the context of Vietnam joining the global business community, it is important for entities to perform well to ensure survival and sustainable development. Performance and efficiency are mostly measured by financial indicators which have become obsolete and are no longer relevant in the new age of development – the age of information technology and continuous change in market trends (Kotane, 2015). A perfect alternative to that is balanced scorecard (BSC), which was invented by Kaplan and Norton (1992) and continuously developed through four generations (Tran & Nguyen, 2015). The merit of BSC is that it shows an overall picture of the company by combining four perspectives at the same time to measure the organizational performance: "Financial", "Customer", "Internal business processes" and "Learning and growth". Because of the usefulness and applicableness for private and public sectors around the world (Amanah et al., 2016), it is used by firms to help in improving performance and efficiency. However, Vietnamese businesses are yet to apply this model for some reasons of familiarity with traditional indicators and steadiness to changes in management system (Dang, 2010).

Sustainable development is a widely discussed topic recently. "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (United Nations, 1987). From the initiation of Brundtland Report in 1987, the United Nations Conference on Environment and Development in 1992 has put the sustainable development up the target for 21st century. Business community has played a vital role for the achievement of this target. To encourage the commitment of enterprises to sustainable development goals, the measures of enterprise's performance should be changed. Traditional financial performance measures like profit, return of equity...are no longer suitable with the new development philosophy. "A performance measurement system that incorporates environmental and social issues in to economic objectives is key to a company engaged in sustainable development" (Morioka et al., 2017). Although sustainable performance is a familiar topic, the literature of sustainable performance measure is scattering, indicating for further research (Morioka et al., 2016). Balanced scorecard – the comprehensive performance evaluation model (Ahmadi et al., 2012) - is the solution for the integration of sustainable development into enterprise's performance. From the survey of performance measure for automobile industry in Taiwan, Hsu and Liu (2010) recommend the use of BSC as management tool for environmental performance evaluation and environmental strategy control. "The balanced scorecard is the offers a superb blend of financial and non-financial measures of performance and provides executives with comprehensive framework that translates a company's strategic objectives into a coherent set of performance measures and enables them to see the breadth and totality of company operation" (John, 2016). The eco-balanced scorecard or sustainable balanced scorecard is emerging technical term in management recently. The eco-balanced scorecard enables each company to weight its success in the connection with "green development". The paper will overview three approaches to build the eco-balanced scorecard for the enterprises. Follow that, the suitable one will be applied for a small and medium company in Vietnam.

The paper has six parts. In the following section, the research background is described briefly. Section 3 provides the research problem, research purpose and methodology. The applying process for a small seafood processing in Vietnam

is presented in section 4. The findings of implementation process are discussed in section 5 and the conclusion is the last one.

2. RESEARCH BACKGROUND

Balanced Scorecard was introduced by Kaplan and Norton (1992) as a new performance measure with respect to the disadvantage of traditional financial performance measure. The applying process was proved that BSC is “an organizing framework for successful strategy implementation” (Kaplan & Norton, 2001). BSC helped convert “an organization’s mission, vision, and strategy into tangible results” (Niven, 2014) with four perspectives: financial, customer, internal business process and learning and growth. Each perspective has its own objectives, measures, targets and initiatives. The cause and effect relationship in strategy map expressed the link between measures in four perspectives. The deferential characteristic of BSC is the that it translates the strategy into the company’s operation. BSC was widely acknowledged as a tool for strategy management and control (Martinsons et al., 1999; Shadbolt, 2007; Farooq & Hussain, 2011)Cretu et al., 2015; Banabakova & Georgiev, 2018). This role of BSC does not change in the fourth industrial revolution (Pessl et al., 2017), however, to effectuate sustainable development, business community has to follow “green development” and integrate it in company’s strategy. In addition, the sustainable performance has to measure correspondingly. The sustainable performance of an organization is the combination of economic, social and environmental result (Dias-Sardinha et al., 2007). Figge et al. (2002) proposed three methods for this purpose based on BSC: combine sustainable measure throughout the four perspectives, insert a fifth perspective to the BSC and build a separate sustainability BSC. The main characteristics of these suggestions are summarized as followings:

Table 1: the main characteristics and the suitability of three integration approaches for sustainable development in to balanced scorecard

	Characteristics	Suitability
An integration to conventional BSC	- Environmental and social elements become an indispensable part of BSC (Figge et al., 2002) - The relationship between corporate strategy and sustainability is perceived (Butler et al., 2011)	- For company in the design and development stage of BSC
A fifth perspective to the BSC	- Emphasize the importance of sustainable development in enterprise’s strategy (Butler et al., 2011) - Difficult to build the cause and effect linkages between sustainability perspective and four remaining perspectives	- For company already has its conventional BSC and is willing to change it
A separate sustainability BSC	- There are four suggested perspectives in sustainability BSC: sustainability, stakeholders, processes and learning (Dias-Sardinha et al., 2002) - The involvement of sustainability development in company strategy cannot be recognized (Butler et al., 2011) - Costly and time consuming	- For company that want to measure its sustainability aspect only - For company already has its conventional BSC and does not want to change it

3. THE RESEARCH PROBLEM, PURPOSE AND METHODOLOGY

3.1. THE RESEARCH PROBLEM

To enforce the Notice No. 398 / TB-VPCP of Vietnamese government office dated December 15, 2015 on the ranking of sustainable businesses, from the year 2016, Vietnamese enterprises have been classified based on 131 criteria of Corporate Sustainability Index (CSI). CSI is built as a measure for corporate value based on criteria for sustainable development in the economic, environmental and social sectors. However, a large number of Vietnamese enterprises do not know how to start with the new development trend (Le Xuan, 2018). The Vietnamese enterprise’s performance is currently measured based on traditional financial indicator. The paper would like to expand the scope for performance measurement system for small and medium enterprise in Vietnam by showing the benefit of using eco-balanced scorecard. The process of building eco-balanced scorecard is also useful for non-applied companies.

3.2. THE RESEARCH PURPOSE AND RESEARCH METHODOLOGY

The research aims to

- Increase the awareness of sustainable development in Vietnamese business community
- Evidence the overemphasis on financial perspective in performance evaluation in Vietnam
- Support the eco-balanced scorecard in Vietnamese small and medium enterprises
- Promote further research on sustainable development and eco-balanced scorecard in Vietnam

- Encourage the disclosure and experience sharing about sustainable development, eco-balanced scorecard in detail and other management tools in general in Vietnamese business community

Case study approach is applied in this research. The selected year for this paper is 2017. The data were gathered from internal managerial reports and financial statements.

4. SUSTAINABILITY AND BALANCED SCORECARD FOR SMALL AND MEDIUM ENTERPRISE IN VIETNAM

Bac Dau Limited Company is the chosen company to illustrate the integrate of sustainable development in BSC in this paper. The business activities of this company are manufacturing, processing and trading seafood. Surimi, frozen and dried seafood are main products of Bac Dau Limited Company. Be aware that seafood processing industry pollute the environment (Sasidharan et al., 2013; Sherly et al., 2015; Urch, 2016), top managers of Bac Dau Limited Company always want to control the company activities to minimize the negative effect to environment and the community. Because this company is in the development stage of BSC, the integrate approach is used for sustainable measure into four conventional perspectives of BSC.

4.1. VISION, MISSION, VALUE AND STRATEGY OF BAC DAU LIMITED COMPANY

The starting point of building balanced scorecard is having vision, mission, value and strategy. After many discussions with the director of Bac Dau Limited Company, the announcement about these statements are listed as followed:

Vision – Become the top value added seafood and foodstuff supplier of Vietnam.

Mission – Led by a staff with experience in seafood and foodstuff processing industry and skilled at developing, marketing products, with criterion “Present quality, future market”, we commit ourselves to promote our best capacity to satisfy higher and higher need of customers both at home and abroad, continuously learn experience and specialism to create products having the best quality and complying with the highest standards of food safety as well as environment protection regulations. WE HAVE ALL WHAT YOU NEED!

Core Values:

- People are the target for all efforts
- Place quality and food safety on the top position
- Outstandingly care about environment protection
- Honesty is the measurement for all activities
- Ensure prestige – deliver on time
- Full aware of the motto “Quality today – Market tomorrow”

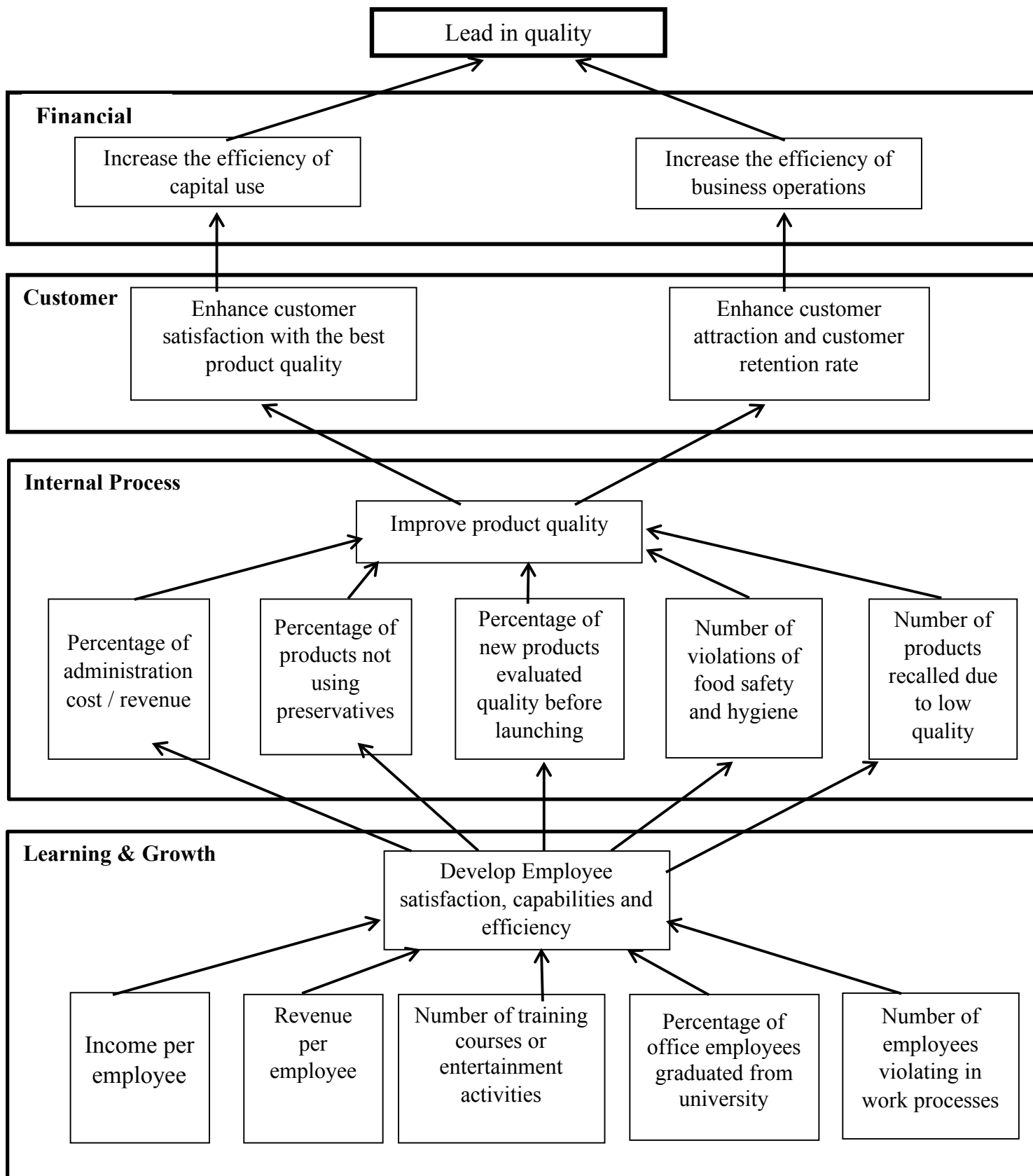
From the above vision and mission, the strategy is provided to achieve them. In particular:

- For customers: the company becomes a reliable partner, satisfying the customers’ demand, cooperating with customers for the mutual development, offering reasonable price and the best service.
- For employees: the company offers good salary to bring them a comfortable life, good working conditions for career development and give them promotion opportunity.
- For society: the company fulfils CSR (corporate social responsibility) like protecting environment, and actively contributing to the community.

4.2. BUILDING THE STRATEGY MAP FOR BAC DAU LIMITED COMPANY

From the clear vision, mission, value and strategy, the strategy map is built to clarify the relationship between four perspectives to execute the company’s strategy. As described in the strategy, Bac Dau Limited Company commits to protect environment and devotes to the community development. The company decides to use as little chemical as possible in the processing stage. The company wants to reduce the number of product that use preservative to less than 55%. In addition, the company commits to comply with the Vietnamese regulation about food safety and hygiene. To improve the awareness about environmental protection, the employees have to attend many training courses organized by Bac Dau Limited Company. The managers believe that these activities contribute to environment protection and build the friendly environmental image to customer and community. The efforts are supposed to improve the financial result of the company finally. This is the development orientation for Bac Dau Limited Company in the sustainable manner.

Figure 1: The strategy map of Bac Dau Limited Company



4.3. DETERMINING THE KEY PERFORMANCE INDICATORS FOR FOUR PERSPECTIVES IN ECO-BALANCED SCORECARD OF BAC DAU LIMITED COMPANY

To measure the performance of Bac Dau Limited company, the managers of Financial department, Production department, Planning & Business department together with the Director to set the key performance indicators for each perspective of their first balanced scorecard. The target for all objectives are quantified to make a clear road for the involved departments as following

Table 2: Key performance indicators of balanced scorecard – Bac Dau limited Company

Table 2: Key performance indicators of balanced scorecard – Bac Dau limited Company				
	Objectives	KPI	Target	Period report
		<i>Journal of Education and Social Sciences, Vol. 12, Issue 1, (Feb)</i> ISSN 2289-9855	2019	
FINANCIAL	- Improve the efficiency of capital use - Improve the efficiency of business operations	Increase return on assets (ROA) (%)	>=0,05	Year
		Increase return on equity (ROE) (%)	>=0,05	Year
		Increase revenue (billion VND)	>=250	Year
		Increase profit (million VND)	>=25	Year
		Decrease expenses (million VND)	<=10.850	Year
CUSTOMER	- Increase customer satisfaction - Increase customer retention - Attract new customer	Market share of the company in seafood industry (%)	>= 0,05	Year
		New customer acquisition (%)	>=15	Year
		Customer retention rate (%)	>=75	Year
		Percentage of satisfied customer (%)	>=90	Year
		Number of complaints (Times)	<=5	Year
INTERNAL PROCESS	-Reduce administration cost - Increase quality of products	Percentage of administration cost / revenue (%)	<=10	Year
		Percentage of non-preservative products (%)	>=45	Year
		Percentage of new products evaluated quality before launching (%)	>=90	Year
		The number of violation of food safety and hygiene (Times)	<=3	Year
		Number of product be recalled due to low quality (Times)	<=3	Year
LEARNING & GROWTH	- Raise employee satisfaction - Develop employee capabilities and efficiency.	Income per employee (million VND)	>= 6	Year
		Revenue per employee (million VND)	>=500	Year
		Number of training courses/ entertainment activities (Times)	>=10	Year
		Percentage of office employees graduated from university (%)	>=80	Year
		Number of employees violating in work process (times)	<=10	Year

5. THE FIRST ECO-BALANCED SCORECARD OF BAC DAU LIMITED COMPANY IN THE YEAR 2017 AND THE FINDINGS

To illustrate for the performance measure based on eco-balanced scorecard, the managers of Bac Dau Limited Company have applied their own model for the year of 2017. The result for performance valuation is presented in the table 3.

From the first eco-balanced scorecard of Bac Dau limited company, it can be seen that the overall performance of this company achieved at the 73% as comparison to the target in the year 2017. The result is fair well performance thanks to the help of customer perspective and internal perspective. Eco-balanced scorecard in table 2 shows that the company has got 21.894; 48; 50; and 25.95 over 50 points (approximately 43.79%, 96%, 100% and 51.9%) for financial perspective, customer perspective, internal perspective, and learning and growth perspective respectively. It confirms that Bac Dau limited company was weak at financial perspective and learning & growth perspective in contrast with customer perspective and internal perspective that had a successful performance.

It seems that the company has done great job in internal process with the absolute score of 50 points. The data in table 3 proves that the company has made excellent effort for cost reduction and quality improvement and environmental protection as stated in its core value. This means that achieving the goal of increasing product quality and caring environment protection leads to customer satisfaction, attracting more new customers, and retaining old customers. The internal perspective and customer perspective are the two important perspectives in balanced scorecard and play a decisive role for food processing companies in general and Bac Dau limited company in particular. Therefore, the company must continue to maintain and improve this performance for the company success.

On the other hand, the reason for the worst performance of financial perspective is ROE and profit that both had very low score in balanced scorecard. Despite the high revenue, the profit is still very low. The reason is that the high revenue comes with high cost of goods sold. This has made the company's profit go against its goal. In addition, the concern in the learning and growth perspective of Bac Dau limited company is the income per employee. This measure only reached 1.75/10 points - if the company does not improved score for this measure, it will cause dissatisfaction for employees in near future. It is suggested that Bac Dau limited company should pay more attention to the benefits of their employees to pursue the balanced development in the future as learning and growth perspective is "the most important aspect of the entire balanced scorecard management process" (Kaplan & Norton, 1996). The rationale behind is that financial targets are only achievable when customers are satisfied with the company's favorable treatment.

In summary, the company has been doing very well in their performance with the core value to serve customers with good quality and environmental friendly reputation. This contributes to make the company become one of the most well-known seafood processing companies in Da Nang city. However, because of the high cost of goods sold, the company did not achieve the desired profit, resulting in low performance of financial perspective and income per employee. This shows that if we only use the traditional metric as the company did, we will not understand the reason why the company still expands the market even though it always gets very low financial ratios.

Table 3: Bac Dau limited company Balanced Scorecard for the year 2017

Perspective	KPI	Target	Scores					Reality	Score assignment (unit: point)
			1 - 2	3 - 4	5 - 6	7 - 8	9 - 10		
			SCALE (from : to)						
FINANCIAL	Increase Return on Assets (ROA)	$\geq 0.05\%$	-0.4 : -0.35	-0.3 : -.25	-0.2 : -0.15	-0.1 : -0.05	0 : 0.05	-0.15	6
	Increase Return on Equity (ROE)	$\geq 0.05\%$	-0.4 : -0.35	-0.3 : -.25	-0.2 : -0.15	-0.1 : -0.05	0 : 0.05	-0.97	0
	Increase Revenue	≥ 250 bill	115 : 130	145 : 160	175 : 190	205 : 220	235 : 250	227	8.47
	Increase Profit	≥ 25 mil	-200 : -75	-150 : -25	-100 : -75	-50 : -25	0 : 25	-196	1.16
	Decrease Expenses	$\leq 10,850$ mil	13,000 : 12,750	12,500: 12,250	12,000 : 11,750	11,500 : 11,250	11,000: 10,850	11,684	6.264
	Sub total								21.89/50
CUSTOMER	Market share of the company	$\geq 0.05\%$	0.05 : 0.01	0.015: 0.02	0.025 : 0.03	0.035 : 0.04	0.045 : 0.05	0.04	8
	New customer acquisition	$\geq 15\%$	6 : 7	8 : 9	10 : 11	12 : 13	14 : 15	18.5	10
	Customer retention rate	$\geq 75\%$	30 : 35	40 : 45	50 : 55	60 : 65	70 : 75	81.5	10
	Customer satisfaction index	$\geq 90\%$	72 : 74	76 : 78	80 : 82	84 : 86	88 : 90	92	10
	Number of complaints	≤ 5 complaints	11 : 10	9 : 8	7 : 6	5 : 4	3 : 2	3	10
	Sub total								48/50
INTERNAL	% of administration cost / revenue	$\leq 10\%$	19 : 18	17 : 16	15 : 14	13 : 12	11 : 10	3.68	10
	% of non-preservative products	$\geq 45\%$	36 : 37	38 : 39	40 : 41	42 : 43	44 : 45	50	10

	% of new products evaluated quality before launching	>= 90%	72 : 74	76 : 78	80 : 82	84 : 86	88 : 90	100	10
	The number of violation of food safety and hygiene	<= 3 times	12 : 11	10 : 9	8 : 7	6 : 5	4 : 3	0	10
	Number of product recalled due to low quality	<= 3 times	12 : 11	10 : 9	8 : 7	6 : 5	4 : 3	0	10
	Sub total								50/50
LEARNING & GROWTH	Income per employee	>= 6 mil	4.2 : 4.4	4.6 : 4.8	5 : 5.2	5.4 : 5.6	5.8 : 6	4.35	1.75
	Revenue per employee	>= 500 mil	275 : 300	325 : 350	375 : 400	425 : 450	475 : 500	455	8.2
	Number of training course or entertainment activities	>= 10	1 : 2	3 : 4	5 : 6	7 : 8	9 : 10	6	6
	Percentage of office employees graduated from university	>= 80%	35 : 40	45 : 50	55 : 60	65 : 70	75 : 80	33	0
	Number of employees violating in work process	<= 10 times	19 : 18	17 : 16	15 : 14	13 : 12	11 : 10	10	10
	Sub total								25.95/50
Total score									145.84/200

6. THE CONCLUSION

The balanced scorecard is an effective strategic management tool that transforms a company's vision and strategy into specific goals and measures in four dimensions that support for the enterprise to develop comprehensively towards the common goal (Shadbolt, 2007). For a long term, the combination with sustainable development is the evitable trend as the managers realize that ecological and social aspect are “value creation that will be bringing success for organizations in the future” (Bagdoniene et al., 2011). As a result, balanced scorecard should include measures for this content. Based on the own condition, each company will choose the appropriate approach to integrate sustainable development to its BSc. In today's extremely competitive business environment, enterprises are constantly striving to survive and develop. Seafood processing industry in general and Bac Dau limited company in particular is not out of the law. With the fruitful benefit of the first eco-balanced scorecard of the year 2017, the board of manager of Bac Dau limited company has the clues in finding the effective solutions to improve its performance for sustainable development.

From a theoretical point of view, the equilibrium scorecard is not too complex, but for the enterprise to measure performance it does not simple and easy to apply (Gawankar et al., 2015). Each business will have a different vision, strategy and goal orientation, so there will be no similarity between the scorecards. Therefore, businesses must be very knowledgeable and directly build their own balanced scorecard that cannot be duplicated from any model. On the other hand, the process of implementing equilibrium point cards is a long process, takes a lot of heartache and effort, it is required the determination of the whole enterprise, especially the managers. At the same time, “the balanced scorecard is never complete” (Niven, 2002). Therefore, in order to applying eco-balanced scorecard, it is necessary to consider the adjustments to suit each stage, the actual time as well as the preparation of the human resources and facilities before embarking on implement this model. The case study of eco-balanced scorecard for Bac Dau limited company hopes to contribute to popularize the understanding of sustainable development in business performance measure and contribute the literature of BSC application for small and medium enterprise in Vietnam.

REFERENCES

- Ahmadi, P., Khoddami, S., Osanlou, B., & Moradi, H. (2012). Using the balanced score card to design organizational comprehensive performance evaluation model. *African Journal of Business Management*, 6(6), 2267-2277. Vol. 6(6), pp.2267-2277, 15 February, 2012
- Amanah Pasaribu, M., Gilang Dwi Andika, Reza Rachmanda, Dermawan Wibisono (2016). A review of performance management using the balanced scorecard in public sector. Proceeding of First International Conference on Advanced Business and Social Sciences (ICABSS-Bali, 2016)
- Bagdoniene, D., Daunoriene, A., & Simanaviciene, A. (2011). Integration of sustainable development principles into the balanced scorecard. *Intelektine Ekonomika*, (3).
- Banabakova, V., & Georgiev, M. (2018). The role of the Balanced Scorecard as a tool of strategic management and control. *IJASOS-International E-Journal of Advances in Social Sciences*, Vol. IV, Issue 10, April 2018
- Butler, J. B., Henderson, S. C., & Raiborn, C. (2011). Sustainability and the balanced scorecard: integrating green measures into business reporting. *Management Accounting Quarterly*, 12(2), 1.
- Cretu, C., Gheonea, V., & Ivan, A. (2015). Balanced Scorecard–Strategic Management Tool of Performance in Public Institutions. *Acta Universitatis Danubius. Economica*, 11(1).
- Dang Thi Huong (2010). “Áp dụng thể điểm cân bằng tại các doanh nghiệp dịch vụ Việt Nam”. *Science Journal of Vietnam National University*. Available from: <http://kiemtailieu.com/the-loai-khac/tai-lieu/ap-dung-the-diem-can-bang-tai-cac-doanh-nghiep-dich-vu-viet-nam/3.html>. [10 Sep 2014]
- Dias- Sardinha, I., Reijnders, L., & Antunes, P. (2002). From environmental performance evaluation to eco- efficiency and sustainability balanced scorecards. *Environmental Quality Management*, 12(2), 51-64.
- Dias- Sardinha, I., Reijnders, L., & Antunes, P. (2007). Developing sustainability balanced scorecards for environmental services: A study of three large Portuguese companies. *Environmental Quality Management*, 16(4), 13-34.
- Farooq, A., & Hussain, Z. (2011). Balanced scorecard perspective on change and performance: a study of selected Indian companies. *Procedia-Social and Behavioral Sciences*, 24, 754-768.
- Figge, F., Hahn, T., Schaltegger, S., & Wagner, M. (2002). The sustainability balanced scorecard–linking sustainability management to business strategy. *Business strategy and the Environment*, 11(5), 269-284.
- Gawankar, S., Kamble, S. S., & Raut, R. (2015). Performance Measurement Using Balance Score Card and its Applications: A Review. *Journal of Supply Chain Management Systems*, 4(3), 6-22.
- Hsu, Y. L., & Liu, C. C. (2010). Environmental performance evaluation and strategy management using balanced scorecard. *Environmental monitoring and assessment*, 170(1-4), 599-607.
- John Ikponwosa Otolor (2016). Balanced scorecard as a performance measurement model: challenges and prospects. Working paper, University of Calabar, Calabar, Cross-River State, Nigeria
- Kaplan, R. S., & Norton, D. P. (1992). *Measures that drive performance*. Harvard Business Review.
- Kaplan, R. S., & Norton, D. P. (1996). Strategic learning & the balanced scorecard. *Strategy & Leadership*, 24(5), 18-24.
- Kaplan, R. S., & Norton, D. P. (2001). Transforming the balanced scorecard from performance measurement to strategic management: Part I. *Accounting horizons*, 15(1), 87-104.
- Kotane, I. (2015). Evaluating the importance of financial and non-financial indicators for the evaluation of company’s performance. *Management Theory and Studies for Rural Business and Infrastructure Development*, 37(1), 80-94.
- Le Xuan (2018). Phát triển bền vững, doanh nghiệp bắt đầu từ đâu? Available from: <http://baodauthau.vn/doanh-nghiep/phat-trien-ben-vung-doanh-nghiep-bat-dau-tu-dau-73981.html>. [25 May 2018]
- Martinsons, M., Davison, R., & Tse, D. (1999). The balanced scorecard: a foundation for the strategic management of information systems. *Decision support systems*, 25(1), 71-88.
- Morioka, S. N., & de Carvalho, M. M. (2016). A systematic literature review towards a conceptual framework for integrating sustainability performance into business. *Journal of Cleaner Production*, 136, 134-146.
- Morioka, S. N., & Carvalho, M. M. D. (2017). Discussing sustainability in business context and in performance disclosures: analysis of Brazilian case studies. *Gestão & Produção*, 24(3), 514-525.
- Niven, P. R. (2014). Balanced scorecard evolution: A dynamic approach to strategy execution. *John Wiley & Sons*.
- Pessl, E., Sorko, S. R., & Mayer, B. (2017). Roadmap Industry 4.0–implementation guideline for enterprises. *International Journal of Science, Technology and Society*, 5(6), 193-202.
- Sasidharan, A., Baiju, K. K., & Mathew, S. (2013). Seafood processing waste management and its impact on local community in Cochin Corporation, India. *International Journal of Environment and Waste Management*, 12(4), 422-441.
- Shadbolt, N. M. (2007). The Balanced Scorecard: a strategic management tool for ranchers. *rangelands*, 29(2), 4-10.
- Sherly, T. M. V., Harindranathan, N., & Bright, S. I. S. (2015). Physicochemical analysis of seafood processing effluents in Aroor Gramapanchayath, Kerala. *IOSR J. Environ. Sci. Toxicol. Food Technol*, 9, 38-44.
- Tran Thi Nga, Nguyen Hoang Dung (2015). Designing a balanced scorecard to measure organizational performance: A case study of a logistics company in Viet Nam. Proceeding of International Conference on Accounting, ICOA 2015.
- United Nations General Assembly. (1987). Report of the world commission on environment and development: Our common future. Available from: <http://www.un-documents.net/ocf-02.htm>. [5 Jan 2019]
- Urch M (2016). Seafood industry in Vietnam faces threat from pollution. Available from: <https://www.seafoodsource.com/features/seafood-industry-in-vietnam-faces-threat-from-pollution>. [12 Dec 2018]

Tran Thi Nga, MSc
Faculty of Accounting
University of Economics, The University of Danang.
Address: 71 Ngu Hanh Son street, Ngu Hanh Son district, Danang city, Vietnam.
Email: ngatt@due.udn.vn

Tran Thu Trang, BA
AGS Accounting Limited Company – Danang branch.
Address: 8th floor, Danang Software Park, 02 Quang Trung street,
Thach Thang ward, Hai Chau district, Danang city, Vietnam.
Email: trangtran147@gmail.com