

考えよう
VEの新しい
カタチ

SJVE
CONFERENCE 2018

コスト競争力の強化と
顧客満足の上を
クリエイティブ・ソリューション
もたらす価値創造技法、
VE (Value Engineering)の最新動向と
企業事例がここにあります！

第51回 VE全国大会

2018.10.23-24 [tue] [wed]

アルカディア市ヶ谷(私学会館)

主催 公益社団法人日本バリュー・エンジニアリング協会

後援 一般社団法人日本建設業連合会／日本インダストリアル・エンジニアリング協会
NPO法人日本TRIZ協会／日本創造学会／上海VE協会



Floor Map

Restaurants (2nd Floor)

レストラン
フォッセ
RESTAURANT FOSSÉ



日本料理
いちがや
ICHIGAYA
JAPANESE RESTAURANT



中国料理
翠
SUI
Chinese Restaurant



■ Program

Day 1 23-Oct-18

FUJI (3F)	
10:00	Opening Session Tamotsu Saito, President, Society of Japanese Value Engineering Mitsuaki Usuginu, CVS, Chairman, SJVE Conference Steering Committee 10:40 SJVE Award/Miles Award Ceremony
Break	
11:00	Keynote Speech Challenge to Innovation through VE ~ First-time Attempts by IHI ~ Tamotsu Saito, President, Society of Japanese Value Engineering 11:50 Chairman, IHI Corporation
Lunch Break	
12:50	2018 Miles Award Winning Memorial Lecture VE Can Change the Organization and the Business ~Towards the industrialization of dining service~ 13:50 Issei Horino, President, Saizeriya Co., Ltd.
Break	
14:10	SJVE Award Winning Company Presentation (1) Establishment and Promotion of Target Costing and VE ~VE widespreading to suppliers and overseas subsidiaries ~ 14:50 M. Adachi, VES, Material Dept. Mitsubishi Electric Corporation Inazawa Works
15:30	SJVE Award Winning Company Presentation (2) Cotinuuous VE activity contributing to Corporate Management ~Our VE history from the introduction to the maturity ~ M. Nishimura, VEL, GM VEC Promotion Dept., Hitachi Construction Machinery Tierra Co, Ltd.
Break	
15:50	Special Lecture New Value that Digitalization will bring to the Society and the People ~Society 5.0 by Keidanren~ Takashi Yoshimura, Director General, Industrial Technology Bureau, Japan 16:50 Federation of Economic Organizations (Keidanren)
17:20	Networking Party <i>*subject to additional fee</i> Come and join us to take advantage of meeting and networking with the conference speakers and lecturers as well as VE professionals in a casual setting. Buffet-style dinner and beverages will be served. (Vegetarian menu available upon request)
18:30	at: TO THE HERBS ICHIGAYA 

FUJI (10am-4:50pm): Japanese-English simultaneous translation


Day 2
24-Oct-18

	FUJI WEST (3F)	FUJI EAST (3F)
10:00	Conference Paper (1) <Excellent Paper Award> Function Definition to promote evolution in products ~Benefits of expanding the scope of function definition~ H. Gomyo, CVS, et al. President, GH Community	Case Report (1) Case of cost saving study for detecting and alert warning system of pedestrian's mis-entry and wrong-way driving T. Sumida, VEL Assistant Manager, Metropolitan Expressway Company
10:40	Special Report (2) Effective instruction of VE thinking approach to people without knowledge and experience in VE study ~We did VE without saying it was a VE study~ M. Usuginu, CVS, IHI Corporation	Special Report (3) Design-phase VE for improving intersection aiming at improving the traffic condition and service at rail station R. Tsuchiya, VEL Dept. of Land and Infrastructure, Gunma Prefecture
11:20	Special Report (5) Use of FAST Diagramming as a global trend in VE ~ In line with the latest developments of SAVE Int'l~ Hisaya Yokota, CVS President, Functional Approach Institute Inc.	Special Report (6) Improving value of "Michinoeki" (Roadside rest station) T. Kimori, CVS SJVE East Japan Chapter R&D Group on Social Infrastructure
12:00	Lunch Break	
13:00	VE Education Forum VE Education in a new way ~from evaluation of results to qualification of VE intstructors~ <Moderator> T. Hattori, CVS President, TED Value Consulting	Conference Paper (4) Effective VE Application to similar sub-assembling products ~Technique to create a common Functional Diagram~ M. Arizumi, CVS Mitsubishi Electric Corporation
13:40	New Product Development Forum Function Analysis to promote evolution in products ~Organizing functions in new product planning~ <Moderator> M. Tanaka, CVS, Ph.D., Tokyo University of Science President, Japan Association of Mgmt. System Researchers	Special Report (8) VE application to Project Management N. Kuno, VEL, Manager, Urban Renaissance Agency Adjunct Instructor, Shibaura Institute of Technology
14:20	Break	
14:30	Special Report (9) A major transformation from baseball-type to soccer-type ~"short-time VE for business improvement" T. Adachi, CVS President, Adachi Value-up Consulting	2018 Miles Award Winning Company Report VE approach to reform and industrialize the service industry ~Management reforms centered in the function~ S. Uchimura, VEL, Manager FA Management Team Innovation Division, Saizeriya Co., Ltd.
15:10	Break (Layout Change)	
FUJI (3F)		
15:50	Special Lecture A Superb Thinking Power ~Shift from single-loop to double-loop~	
16:50	Takero Yasuzawa, President, Penetra Consulting Co., Ltd.	

FUJI EAST(10am - 3:10pm), FUJI (3:50pm-4:50pm): Japanese-English simultaneous translation

Day 2
24-Oct-18

	DAISETSU (5F)	HOTAKA (5F)
10:00	Conference Paper (2) Development of training methods for engineers with optimal cost design ability K. Chikuan, VES DENSO Corporation	Special Report (1) From AI to BI ~Proposal of next generation VE/VM towards the social growth period~ H. Kawakami and E. Leleito SIG on "Fubeneki" and VE, Value Design Lab
10:40	Conference Paper (3) <Honorable-Mention Award> Application of TRIZ creativity method in manufacturing human resources education M. Oda, CVS et al. HRD Center, Mitsubishi Electric Corporation	Special Report (4) Proposal of extracting process of differentiated function ~A hit product depends on its planning~ Y. Nojima, CVS SJVE East Japan Chapter R&D Group
11:20	Special Report (7) VE project for efficiency improvement and new service development in the field service industry ~value creation through customer and employee satisfaction~ M. Taya, Director, Shinkawa Electric Co., Ltd. M. Fukuhara, CVS, Fukuhara Innovation Institute	Case Report (2) Case of improving VE-oriented mind promotion media for field staff Kenichi Yoshizawa, VEL Innovation Division, Saizeriya Co., Ltd.
12:00	Lunch Break	
13:00	International Presentation (1) Advocacy and institutionalization of Value Analysis in the Philippines Maria Rhiza Castillo President, SYSTRA Philippines Inc. 	Conference Paper (5) <Honorable-Mention Award> A new method of functional diagramming using block diagram for VE applied in electronic circuit M. Shimomura, VES Pioneer Corporation
13:40	International Presentation (2) INVEST Activity Updates Taresh Varshney  AVP, INVEST Western Zonal Council	Case Report (3) VE application in electronic circuit of water heater Y. Masuda, CVS NORITZ Corporation
14:20	Break	
14:30	International Presentation (3) Redefining transportation infrastructure projects using Value Engineering Christine Stephanie Laumond SYSTRA Philippines Inc. 	Case Report (4) VE application to improve the yield ratio of press parts materials for vehicle T. Kobayashi Sumino Kogyo Co., Ltd.
15:10	International Presentation (4) Value Analysis on tractor front axle assembly P. Davis, M. Gavade and K. Satpute  Mahindra & Mahindra Ltd.	Case Report (5) VE application to improve the value of service in economy hotel K. Yamamoto, VEL, Prof. Osaka Gakuin University J. Hayashi, President, VEL, Hotel Sun Hofu
15:50		

 DAISETSU (1pm - 3:50pm): English-Japanese consecutive translation

■ SJVE Award

Every year, at the annual conference, SJVE takes pride in recognizing the contributions of members (both individual and corporate) to the promotion and research and development of VE, together with outstanding services to the advancement of this Society.

《Distinguished VE Service Award》

Naruo Kanoh, Emeritus Professor, Waseda University

Mr. Kanoh served as a board member of SJVE during 2002 – 2018 and contributed greatly for the advancement of this Society. He also served as a Miles Award Screening Committee member and Conference Technical Paper Screening Committee member. As an academic, he devoted to the research and study in VE as well as human resource development of VE professionals through University education.



《Distinguished VE Service Award》

Takeshi Okamoto, VEL Manager, Production Operations, Yaskawa Electric Corporation

Mr. Okamoto served as a steering committee member of SJVE West Japan Chapter since 2012 for 6 years and played a central role in the chapter events and took a lead in conducting VE practical workshop course in West Japan region. At his company Yaskawa Electric Corp. he is responsible for VE promotion and management of in-house VE activities such as planning, control and assistance to specific VE studies.



Yoshihiro Kikuchi, VEL, GM Production Innovation Center, Sekisui Chemical Co., Ltd.

Mr. Kikuchi served as a steering committee member of SJVE West Japan Chapter since 2003 and contributed to the planning and organization of the chapter events. At his company Sekisui Chemical Co., Ltd., he has been active in promoting various management techniques as well as developing a systematic management skill training program and its management. He developed an original “Sekisui Style of IE Method” based on the IE and incorporated with objective and function-oriented VE thinking. He engages in the promotion of this method throughout the company as a process improvement method.



Tomoko Numazawa, CVS, SCM Planning, Global Business Service, Yokogawa Electric Corporation

Ms. Numazawa has been leading one of the East Japan Chapter SIG on Marketing as the study group leader and sub-leader for more than 7 years and contributed to the invigoration of the chapter activities. She served as the conference steering committee chairman at the 45th SJVE Conference in 2012 and displayed her great ability in the planning and promotion at SJVE’s biggest annual event. In 2010 she became the first female CVS in Asia and devoted to the promotion of VE activities at her company Yokogawa Electric Corporation. The company has won the Miles Award and received the SJVE Company Award for another 2 times.



Tatsuo Miyoshi, CVS, Production Engineering Dept., Mitsubishi Electric Corporation
 Mr. Miyoshi has served as the VP of SJVE East Japan Chapter (2016 – Present) and group leader and sub-leader of SIG on R&D (2012 – Present) and contributed greatly for the advancement and invigoration of chapter activities. He served as the conference steering committee chairman at the 47th SJVE Conference in 2014 and displayed his ability in the planning and promotion at SJVE’s biggest annual event. He participates in Japan CVS Forum committee and serves as instructor for SJVE sponsored VE training seminars. At his company Mitsubishi Electric Corp., he is responsible for in-house VE promotion.



《Outstanding VE Activity Award》

Mitsubishi Electric Corporation
 Inazawa Works



Location: Inazawa City, Aichi Prefecture

Business: Production of elevators, escalators and building system equipment

Representative: Yoshikatsu Hayashi, Director, Inazawa Works

【VE related achievements】

To achieve the company-wide common activity index and corporate policy, at Inazawa Works they establish annual business plan and focused issues on target costing and VE. They apply “Single-drawing VE” method, collaborative VE with suppliers and focused VE training and certification, as their tools to implement the target plan. They achieve target costs of emphasized development models as strategic target costing goal for 100%. They expand the Single-drawing VE method to their overseas subsidiaries around the world to start globalization of their VE practice.

Hitachi Construction Machinery  株式会社 日立建機ティエラ
 Tierra Co., Ltd.

Location: Koka City, Shiga Prefecture

Business: Production of construction machinery

Representative: Kazunori Nakamura, President



【VE related achievements】

The company’s VE program is administered by VEC Promotion Dept. in Development and Procurement Division. They establish mid-term management plan and according to the policy each department establishes VE study plan for achieving the budget and deploy it as the company-wide activity. They review the status of cost saving for existing products every month to monitor and manage their target costing and cost improvement initiatives. The target costing for developed products is managed by PDI (Products Development Innovation) Organization. They solicit “design change proposal and/or Idea proposal” from inside and outside the company and manage the status and implementation. The number of VEC proposals is 447 since 2005.

■ Miles Award

Since the earliest days of VE introduction to Japan, it has been recognized not merely as a simple management technique but also as a management philosophy and has become widely dispersed in various sectors of corporate management in combination with original Japanese corporate and managerial cultures. With the permission of Mr. Miles, SJVE established the "Miles Award Program" in 1982 to further promote and disseminate the use of VE in Japanese industrial circles and contribute to the improvement of technological level and efficiency in corporate management.

《Miles Award》

Saizeriya Co., Ltd.

Location: Yoshikawa City, Saitama Prefecture

Business: Food service under the restaurant chain "Saizeriya"

Representative: Issei Horino, President



【VE related achievements】

The second president Mr. Issei Horino who took over the role of the management from the company founder Mr. Yasuhiko Shogaki, was impressed by VE method. Believing that VE strongly contributes to the corporate management innovation, he worked hard on the promotion of VE as being himself an instructor travelling around the nation. Since 2013 the company started to introduce VE on a full scale and received the Outstanding VE Activity Award from SJVE in 2015. It is notable that they have challenged for Miles Award after only 5 years of history in VE, they strongly promote VE for food service business to be competitive in the rapidly changing market. They call VE as FA (Functional Approach) and promote it company-wide.

■ Lectures

《Keynote Speech》 Challenge to Innovation through VE~ First-time Attempts by IHI ~

Tamotsu Saito, President, Society of Japanese Value Engineering

Chairman, IHI Corporation

Since its foundation in 1853, IHI Corporation has released a number of "first time in ever" products both domestically and internationally. We thoroughly think about how to realize the needs of the society and the customer, and as a result of it, a new product is born. During the old times, we did not actually implement VE method, but our philosophy was based on function-inspired value improvement and customer-oriented way of thinking. The keynote speech will address how and why VE works effectively for innovation from the VE-focused viewpoint.



Mr. Saito was born in 1952 in Yamagata Prefecture and graduated from The University of Tokyo in Engineering.

He joined Ishikawajima-Harima Heavy Industries Co., Ltd. in 1975. He served as Executive Officer and Vice President, President, Director, Managing Executive Officer and President of Aero-Engine & Space Operations, Executive Vice President, and assumed as President and CEO of IHI in April 2012.

In April 2016, he served as Chairman of the Board, CEO, General Manager of Monozukuri Systems Strategy Planning Headquarters and has been as Chairman of the Board since April 2017.

In June 2018, he assumed the post of the 6th President of Society of Japanese Value Engineering.

《Memorial Lecture》 "VE Can Change the Organization and the Business~Towards the industrialization of dining service~"

Issei Horino, President, Saizeriya Co., Ltd.

Since its foundation in 1973, Saizeriya has been deploying a unique and peculiar scientific management. Currently, the company runs italian restaurant chain counting 1469 stores in Japan and abroad. The speaker took over the company management as the second president in 2009 and unlike in the food service sector which tends to be "intuitive-based" management, he has been pursuing productivity improvement at a similar level of manufacturing industry. By setting the technology as key point towards the industrialization, he implemented VE as essential technique for improvement. Because of the nature of the food service business which contains elements of both manufacturing and service industries, required a significant change in mindsets. It is why VE is really changing "them". The lecture will address the company's history of VE introduction, deployment and how it has been firmly established in the corporate culture based on the characteristics of food service business.



Mr. Horino was born in 1957 in Toyama Prefecture and was graduated from Kyoto University Graduate School of Agronomic Engineering in March 1981. He joined Ajinomoto Co., Ltd. in April of the same year. He engaged in the procurement of carcinostatic drugs, improvement of production method for Amino-acid, production of glutamic sodium, and production/improvement of Amino-acid for medical purpose. He joined Saizeriya in April 2000. He became a member of the Board in November of the same year. He oversaw the establishment of Kanagawa and Fukushima Factories. After having served as Director General of Products, Merchandising/Agriculture, the 3rd Product Department and Engineering, he assumed the role of the President in April 2009.

《Special Lecture》 New Value that Digitalization will bring to the Society and the People ~Society 5.0 by Keidanren~

Takashi Yoshimura, Director General, Industrial Technology Bureau, Japan Federation of Economic Organizations (Keidanren)

Industrial structure is making a significant change in different fields due to the advancement of digitalization. Keidanren is driving a number of initiatives towards the realization of new social model "Society 5.0" which promotes economic growth and resolves social challenges simultaneously with the use of digital technology and data.



This lecture focuses on the new value that the digitalization will achieve, and addresses the vision of Society 5.0, its relationship with SDGs advocated by United Nations, challenges towards the realization, and initiatives by Keidanren.

Mr. Yoshimura was graduated from Hitotsubashi University Graduate School in 1997 and joined Keidanren Secretariat. He engaged in the financial policy reforms at Economic Policy Bureau and development assistance policy and economic partnership agreement at International Cooperation Bureau and assigned to Industrial Technology Bureau in 2008. As Director of the Bureau since 2017, he has been responsible for science and engineering innovation policy such as Society 5.0, as well as intellectual property, venture business, information and telecommunication, space, oceanic and defense industries. He has served in various capacities in the professional councils and study groups by the Ministry of Economy, Trade and Industry and Ministry of Education, Culture, Technology, Sports, Science and Technology. He also teaches at the University of Tokyo Graduate School of Policy Research as guest researcher.

《Special Lecture》 A Superb Thinking Power ~Shift from single-loop to double-loop~
Takero Yasuzawa, President, Penetra Consulting Co., Ltd.

“Difference in ability” can be overcome by “difference in the way of making efforts”. The essence can be found at “the double-loop learning”. For example, simply “doing VE” is a single-loop, while “doing VE on the way of doing VE” is a double-loop. VE can be a powerful tool in making innovation in work process. Which “function” is important to complement the imperfect human weakness? The speaker will address this issue from the aspect of sports and business.



Mr. Yasuzawa was born in 1974 in Shiga Prefecture. He was graduated from Kyoto University in Engineering and joined Kajima Corporation. During his college, he was one of the top players of American Football where his team won the All-Japan University championship for twice. His team won the corporate football league champion and became the No.1 in Japan. He played at All-Japan championship games for 4 times in total. Later, he mastered methodology in organizational reforms at an international consulting firm specialized in “execution assistance” where he worked with people from large-sized and long-lasting companies. He adopted his own experiences and know-how of organizational building in his American Football team, which made it evolve into “ever-challenging organization”. He established Penetra Consulting in 2012. He has been active as “Organizational Reform Specialist” having his client individuals and organizations break through barriers.

■ Award Winning Company Report

《Miles Award》 VE approach to reform and industrialize the service industry ~Management reforms centered in the function~

S. Uchimura, VEL, Manager FA Management Team
Innovation Division, Saizeriya Co., Ltd.

We have positioned VE as a central core of management innovation for 5 years since 2013 through the powerful top-down approach. We will introduce how VE was applied and contributed to our management under a peculiar nature of food service business. In addition, a few of our new initiatives for the future will also be discussed.



Ms. Uchimura engaged in restaurant store management, menu planning and sales promotion. As she had a successful performance as in-house coordinator during the company's merchandising system expansion, she was appointed to the President's Office which reports directly to the President as educational company magazine chief editor and writer. She has been in charge of public relations since 2011, and VE promotion office since 2013 under the direct supervision of the President. She was appointed as the chief of VE promotion office as full-time team member. She has led a number of VE workshops as team leader. She is specialized in dealing with intangible concepts such as customer experience process building and branding.

《SJVE Award Winning Company Presentation (1)》 Establishment and Promotion of Target Costing and VE~VE widespreading to suppliers and overseas subsidiaries ~

M. Adachi, VES, Material Dept. Mitsubishi Electric Corporation Inazawa Works

At Mitsubishi Electric Corp. Inazawa Works we has been implementing target costing and VE activities. Not only in-house, we have been working with our business partners and overseas subsidiaries to promote collaborative (joint) VE study in many of our products/projects. To better sustain all these efforts, we strive for training our people in VE, urging them to get VEL and VES certification. The effort of training people in VE also expands to our in-house practitioners, suppliers and workers in overseas factories.



Mr. Adachi graduated from the University of Electro-Communications in 1981 and joined Mitsubishi Electric. He engaged in image high-efficiency coding, development of color scanner and finger print checking devices, design of air-conditioner for building. He has been in charge of target costing and VE promotion since 2000.

《SJVE Award Winning Company Presentation (2)》 Continuous VE activity contributing to Corporate Management ~Our VE history from the introduction to the maturity ~

M. Nishimura, VEL, GM VEC Promotion Dept., Hitachi Construction Machinery Tierra Co, Ltd.



HCM Tierra initiated VE activity since 1991 by setting up VE promotion department with perform cost estimation through drawing. From then until the present, we have applied target costing for existing products. In recent years, we deploy a systematic initiative focusing on the life cycle cost of new products including the marketing, mass-production and quality issues in the target costing activity. By promoting these activities continuously, VE certainly contributes to the corporate management.

Mr. Nishimura joined Hitachi Construction Machinery in 1992 where he engaged in design of existing and new products of small-and medium size hydraulic shovel. He engaged in development testing at quality assurance dept. In 2005 he was transferred to HCM Tierra where he was in charge of development testing of mini hydraulic shovel. He has been promoting target costing at VEC Promotion Dept. since 2018.

■ Conference Paper

《Conference Paper 1》 Function Definition to promote evolution in products ~Benefits of expanding the scope of function definition~

H. Gomyo, CVS, et al., President, GH Community

Excellent
Paper

Both the companies and products are always required to be evolved. The evolution in products can be achieved through continuous improvement aimed at satisfying the customer. That is why value improvement and differentiation/uniqueness in products are essential. We understand that the target of the function definition needs to be expanded in order to effectively realize these 2 factors. The target of the function includes those functions required for conventional VE subject (ex. products), functions to be the purpose on the higher order, and functions performed by “people” or “things” which work closely to the performance of the function. By categorizing the functions of these 3 in a rational manner under total optimization, the targeted customers will enjoy value improvement and differentiation on the product they need.



Mr. Gomyo joined Hitachi Construction Machinery in 1971. He involved in the development and design as well as cost reduction assignments. Later he engaged in target costing activity as director of VE promotion department, where he was responsible for managing the VE studies and VE training workshops resulting that the company produced a number of certified VELs. Currently he is the president of GH Community and serves as senior researcher in Japan Association of Management System Researchers.

《Conference Paper 2》 Development of training methods for engineers with optimal cost design ability

K. Chikuan, VES, DENSO Corporation

There has been a big change in the cost-optimized design required to the automotive parts engineers due to the recent trend of increased demand in advanced safety equipping such as unified electro-machinery products. This paper focuses on the



following 3 points to resolve this issue: 1) develop training method for engineers to be capable of obtaining cost optimization in design adapted to environmental change; 2) develop capability achievement index for apparent capabilities, and; 3) verify effectiveness of developed training method through practical experiments.

Mr. Chikuan joined DENSO and has engaged in development and design of automotive pressures and magnetic sensors and has applied VE in product development. Based on his experience, he engages in the training of Value Engineers and cost optimized design for strategic products as manager of target costing department.

《Conference Paper 3》 Application of TRIZ creativity method in manufacturing human resources education
M. Oda, CVS et al., HRD Center, Mitsubishi Electric Corporation

Honorable
Mention

After presenting the paper “Antithetical analogical approach to creativity method with the use of TRIZ techniques” at the 50th SJVE Conference, the author has expanded the scope of application from technical issues to resolve social challenges as well. The theory of inventive problem solving was applied to HRD planning in a manufacturing company. As a result, the basic concept of high-value training program was obtained. This involves multilateral perspectives, wider viewpoints, and optimized choices from a variety of unique technologies, competencies, managerial techniques, etc. In a case study which dealt with specification of the basic concept proved the expansion in views to newly employed engineers during a training program.



Mr. Oda completed his master’s course in fundamental engineering from the Graduate School of Osaka University and joined Mitsubishi Electric. He engaged in development and design of production engineering. Having worked in the design, Value Engineering, development planning management, currently he is GM of HRD Center which oversees the training and education of the whole company employees. He obtained CVS in 2016. He has presented many papers (including award-winning) both in Japan and abroad.

《Conference Paper 4》 Effective VE Application to similar sub-assembling products ~Technique to create a common Functional Diagram~

M. Arizumi, VES, Mitsubishi Electric Corporation

Due to the Government’s initiative on promoting work style reforms in Japan, improving the Value Engineering ROI has been a key challenge. In this paper, we have focused on made-to-order products in which the use of VE has not seen due to low potential of profit increase compared to mass production. Although the basic function differs, by collecting information on the means to achieve functions at the similar 2nd-level functions, we have obtained an effective way of conducting and expanding the VE study.



Ms. Arizumi worked for a semiconductor manufacture where she engaged in the design of voice-grade semiconductor, joined Mitsubishi Electric in 2013. Currently she belongs to VE promotion section.

《Conference Paper 5》 A new method of functional diagramming using block diagram for VE applied in electronic circuit

M. Shimomura, VES, Pioneer Corporation

Honorable
Mention

One of the reasons which hampers the use of VE in electric circuit depends on its characteristics. Firstly, electric engineers do their development and design work by focusing on the functions of circuit and parts, so they may not find it necessary to do the function analysis over again. Secondly, the electric circuit has rapidly been diversified and it may take a lot of time and effort in developing the functional diagram. This paper proposes a block diagram appropriate for organizing functions and clarifies its effectiveness.



Mr. Shimomura engaged in development of electronic devices for ground facility of artificial satellite and defense-related facilities. In 2004 he joined Pioneer. Having worked in electric circuit design for in-vehicle devices such as car navigation system, he got involved in VE since 2013. He was transferred to the current section in 2016 and currently promotes in-house VE and target costing programs.

■ Case Report

《Case Report 1》 Case of cost saving study on detecting and alert-warning system of pedestrian's mis-entry and wrong-way driving

T. Sumida, VEL, Assistant Manager, Metropolitan Expressway Company

In order to avoid personal injury caused by critical car accidents due to pedestrian's mis-entry and wrong-way driving on highway roads, we are required to set automatic detecting and alert-warning system at interchanges as many as and as fast as possible. For this purpose, we run a VE study to consider new ideas to save the cost for installation of the system as well as to improve the function of the existing system.



Mr. Sumida joined Metropolitan Expressway Corp. in 1998. As civil engineer he engaged in surveying the safety maintenance work, design, field supervision, investigation of in-process routes, new project planning etc. Currently he oversees planning of renewal projects in Nihon-bashi area.

《Case Report 2》 Case of improving VE-oriented mind promotion media for field staff
Kenichi Yoshizawa, VEL, Innovation Division, Saizeriya Co., Ltd.

Saizeriya distributes VE related information once a week to all our 1,000 stores where 1 or 2 site-operational staff are on duty at each location. After 5 years, a half of the employees share and understand VE-oriented mindset, still there are a significant portion of the staff who are resistant to change. We have developed a promotional media which can be understood intuitively to all the employees.



Mr. Yoshizawa joined Saizeriya in 2000 where he was engaged in store management of the restaurant chain. He was assigned to Innovation dept. which is a full-time organization devoted to the promotion of VE. Currently he is responsible for managing Functional Approach, project improvement and in-house VE training as a full-time staff.

《Case Report 3》 VE application in electronic circuit of water heater

Y. Masuda, VES, NORITZ Corporation

The need for using electronic circuit in our main products (water heater) is increasing as the safety concept and functional complexities are changing. Also, the cost gravity of electronic circuit in a product has been increasing. We have done a teardown study from the upstream of the development of electronic circuit and achieved a design optimization by applying VE.



Mr. Masuda joined Noritz in 2009. He engaged in the design of electronic circuit of gas oven and air-conditioner/dryer for bathroom. He has been in the current position since 2014 and engages in VE promotion and improvement works in Monozukuri process.

《Case Report 4》 VE application to improve the yield ratio of press parts materials for vehicle

T. Kobayashi, Sumino Kogyo Co., Ltd.

VE method was applied to press mold production process for brackets for improving crackup safety of vehicles. They have reviewed the necessary functions for the layout of mold and achieved its yield ratio.



Mr. Kobayashi joined Sumino Kogyo in 1993. At the technical center, he engaged in 3-D based mold design in the machinery processing. He was transferred to production engineering in 2011 where he conducts analyses, parts evaluation, collaborative works and process design.

《Case Report 5》 VE application to improve the value of service in economy hotel

The so-called “business (no-frills) hotel” chains operated nation-wide are highly competitive due to their high profile and advantage of scale resulting in cost affordability of room fares. Compared to that, standalone small sized hotels have a lot of disadvantages. In order to get rid of this situation and gain competitiveness, we have created new value in service by using VE method, which large hotel chains would never be able to realize.

K. Yamamoto, VEL, Prof. Osaka Gakuin University

Prof. Yamamoto is Professor in economics at Osaka Gakuin University since 2017. He is specialized in management accounting and cost estimation. He also serves in several public services such as Osaka Prefecture audit commissioner.



J. Hayashi, President, VEL, Hotel Sun Hofu

Ms. Hayashi joined Hotel Sun Hofu in 1995. After the passing of his father who was the president of the company she was assigned the current position. She studied MBA course at Osaka Prefectural University Graduate School of Economics where she studied management accounting and Value Engineering under the mentorship of Prof. Yamamoto. She obtained VEL certification in 2016. She incorporates VE method in service industry to improve value of hotel business.



■ Special Report

《Special Report 1》 From AI to BI ~Proposal of next generation VE/VM towards the social growth period~
H. Kawakami and E. Leleito, SIG on "Fubeneki" and VE, Value Design Lab

Have you ever taken advantage of something inconvenient? We define the benefit which can be obtained from inconvenience as "BI (benefit of inconvenience)". The "use function" pursued for improvement by VE is generally oriented to the convenience such as efficiency, better functionality, or automation. Labor power replaced by AI technology in recent years is a typical example. However, convenience is not the sole factor required in the social growth period. We also have "esteem function" but there are another 3rd function "fubeneki" which should be addressed in VE for the next generation.

Dr. Kawakami Graduated from Kyoto University in 1987 in Engineering and completed the master's course in Engineering from Kyoto University in 1989. He served as assistant in Information Engineering, Faculty of Engineering at Okayama University, later became assistant professor in Information Studies at Kyoto University in 1998. In 2014 he became Program-Specific Professor at Unit of Design at Kyoto University.



Mr. Emanuel Leleito completed his doctor's course in environmental life engineering from Toyohashi University of Technology Graduate School in Engineering in 2010. He became researcher in architecture and urban system engineering at TUT during 2010 – 2012. He has been lecturer in engineering and collaborative center of natural disaster prevention at Nagoya University since 2010.



【About Value Design Lab】

Founded in 2016 as a new research organization to deal with cutting-edge practical research and study to expand new area of implementation in VE. The lab established Special-Interest Group on "Fubeneki and VE" and focuses on a new perspective defined as BI (benefit of inconvenience) proposing it as a new

third function in addition to use function and esteem function in VE. The research team aims at establishing an innovative domain of VE/VM.

《Special Report 2》 Effective instruction of VE thinking approach to people without knowledge and experience in VE study ~We did VE without saying it was a VE study~
M. Usuginu, CVS, IHI Corporation

If there is a way to produce an effective result from VE study conducted by people with no experience or knowledge in VE, it would be an opportunity to know VE and help greatly to its promotion. Without saying “VE” or using VE terminology, the speaker has led a project which achieved an outstanding result using the fundamental thinking of VE. The presentation will provide an overview of the project.



Mr. Usuginu joined IHI in 1984. He engaged in the development of space promotion rocket engine and future aero-engine. He is trying to spread the word of the benefit of using VE to people who have never heard of it before.

《Special Report 3》 Design-phase VE for improving intersection aiming at improving the traffic condition and service at rail station
R. Tsuchiya, VEL, Dept. of Land and Infrastructure, Gunma Prefecture

Gunma Prefecture aims at providing citizen-centered high-quality civil engineering service in consideration of the following 4 goals: 1) ensure design in accordance with local needs and characteristics; 2) provide more cost effective and better quality service; 3) ensure technical improvement and transmit the technology to the next generation and 4) nurture creative organizational culture and positions them as the purposes of introducing design-phase VE. This presentation will report one of the successful cases of VE application in civil engineering service.



Mr. Tsuchiya joined Gunma Prefectural Government in 1996. Having worked at some of the regional civil engineering offices, he has assigned to VE promotion secretariat since 2016 where he is responsible of selecting civil engineering projects for VE studies and organizing VE workshops. He is also in charge of ICT-related public work projects.

《Special Report 4》 Proposal of extracting process of differentiated function ~A hit product depends on its planning~
Y. Nojima, CVS, SJVE East Japan Chapter R&D Group

Since the developing countries grow substantially, global market is becoming as competitive as never before. In pursuit of developing products to be chosen by the customer, we have introduced a concept of “differentiated function” and proposed a series of steps to implement the process from be extracting of the product to its concept making. During this process we have developed the “functional diagram of differentiated functions” and we will introduce it along with 2 actual case studies.



Mr. Nojima joined IHI Corporation in 1990. He engaged in strengths evaluation of aero-engine parts. He was assigned to VE Promotion Dept. in 2002 where he was in charge of managing VE projects and training program. He has joined SJVE East Japan research and study group since 2004 and has led “research team on differentiated function” during 2011 – 2016.

《Special Report 5》 Use of FAST Diagramming as a global trend in VE ~ In line with the latest developments of SAVE Int'l~

Hisaya Yokota, CVS, President, Functional Approach Institute Inc.

FAST Diagram was introduced to Japan in the 1960’s and as a result, the functional diagram was developed. After a half century, SAVE International published “Function Analysis Guide” as a new standard for FAST Diagram in 2016. This presentation will feature how to develop a FAST Diagram, its strengths and weakness, differences between FAST and functional diagram and points of consideration.



Mr. Yokota is a management consultant. Taking advantage of his strong connection with VE professionals in the US and Europe, he has attended International VE conferences and presented his papers, has rich experience in introducing VE to new business domain such as service industry and engages in expanding the potential of VE to be widely used in business field in general. He has been exposed to several media, published a number of books and presented at seminars and conferences.

《Special Report 6》 Improving value of "Michinoeki" (Roadside rest station)

T. Kimori, CVS, SJVE East Japan Chapter R&D Group on Social Infrastructure

This report will feature a case of recent VE study conducted to improve the value of “Michinoeki”. In civil engineering field, VE has been widely used to reduce the cost of public construction works but has not been done so much for value improvement aspect. By applying VE for reconstruction planning of “Michinoeki”, it became evident that VE was also effective in public facility improvement projects.



Mr. Kimori joined Pacific Consultants Inc. in 1991. He engaged in planning and design of road-related construction such as bridges. In 2006 he was assigned to VE Center as full-time VE consultant. He engages in VE training workshops, lectures, project and organizational improvement for clients in the public sector. Currently as director of VE Center, he engages in the planning and development of new projects.

《Special Report 7》 VE project for efficiency improvement and new service development in the field service industry ~value creation through customer and employee satisfaction~

This presentation will feature a case of VE introduction as value creating management method in service industry. Creating a new service and making the shift to operations of high value for the purpose of providing the customer with high satisfaction in a prompt manner, a multi-disciplinary team was formed and conducted a VE study. They were successful in achieving business operation efficiency and sales

increase at the same time. By conducting “No-criticism allowed” meetings, the team was able to come up with proposing and implementing ideas for ideal work operation and service and contributed to increased satisfaction by the employees as well.

M. Taya, Director, Shinkawa Electric Co., Ltd.

Mr. Taya joined Shinkawa Electric in 1993 and has worked with many client companies domestically and internationally as field service engineer. He has been in the current position since 2018. The company introduced VE in 2016 as a method of management reform and currently undertakes business innovation projects at 13 locations as well as training company staff in VE.



M. Fukuhara, CVS, Fukuhara Innovation Institute

Mr. Fukuhara joined Hitachi, Ltd. in 1995. He engaged in R&D of semiconductor and VE consulting for the entire Hitachi group and company-wide VE projects for product development at Hitachi Kokusai Electric. He established his own company in 2011 and provides management consultancy and training service to manufacturing and service companies counting 178 organizations.



《Special Report 8》 VE application to Project Management

N. Kuno, VEL, Manager, Urban Renaissance Agency, Adjunct Instructor, Shibaura Institute of Technology

In order to accomplish a town development project which addresses a lot of difficult issues, proper project management is essential. VE was applied to ensure the project's proper design, replace the definition of function in an objective standard and evaluate the improvement items throughout the workshop.



Mr. Kuno joined URA in 1990 and engaged in town development works in urban residential area, land readjustment projects and nearby station development projects. He experienced the disaster restoration assistance project for East Japan Earthquake. He also teaches at Shibaura Institute of Technology. He has received awards from UIT, Society of Civil Engineers and SJVE.

《Special Report 9》 A major transformation from baseball-type to soccer-type ~"short-time VE for business improvement"

T. Adachi, CVS, President, Adachi Value-up Consulting

Effectiveness improvement in workplace has been focused a lot of attention due to the government's initiative on work style reforms. To this end, I have developed and promoted “short-time VE in for business improvement” aiming at even not experienced VE practitioner can achieve a result in a short time without any regard to the conventional VE job plan. Specifically, some of the VE job steps were simplified, focused on pre-event duties, and made efforts in generating ideas effectively within a short time.



Mr. Adachi joined Kajima Corporation in 1980. He engaged in design and construction management, then organized management of productivity improvement of mission-critical tasks, where he oversaw cost management operations, contract and accounting operations and promoted integrated systematization. In 2017 he established Adachi Value-up Consulting and has been serving as business improvement consultant for construction industry.

■ International Presentation

《International Presentation 1》 Advocacy and institutionalization of Value Analysis in the Philippines
 Maria Rhiza Castillo, President, SYSTRA Philippines Inc.



This paper is prepared for presentation to the Society of Japanese Value Engineers, during their 51st conference from 23 to 24 October 2018, to share with Value Engineering (VE) practitioners the beginning of value analysis in the Philippines, and how the government's planning agency, the National Economic and Development Authority or NEDA, is advocating its use on major infrastructure development projects in order to maximize the government's resources and funds.



Maria Rhiza Samson CASTILLO is President of SYSTRA Philippines Inc.

Competent, very reliable and with excellent work ethics. Held positions that involved management of operations, administrative and office management, human resources management, project administration and business development, and marketing and sales.

Certified by SAVE International as a Value Methodology Associate (VMA).

《International Presentation 2》 INVEST Activity Updates
 Taresh Varshney, AVP, INVEST Western Zonal Council



Indian Value Engineering Society (INVEST) was established in 1977. It is affiliated to Society of American Value Engineers SAVE International, USA and serves Indian Industry by dissemination of specialized Knowledge to professionals. It is a leading Asian Association of Value Professionals. It offers its members consulting, training, tools, publications for Value Methodology, Certification, networking and recognition and has 4 zones and a Certification Board.



Annually, an International conference is organized in India. This year the 34th International VE conference will be held on December 7-8, 2018 at Hotel Ramada, Mumbai, India. More than 200 delegates, domestic & International. INVEST conferences provide an exciting forum for exchange of knowledge among active practitioners, which help them adopt and innovate in their areas of work. This year onward, new awards have been incorporated. The international delegates will be taken on Mumbai sight-seeing based on their request.

Mr. Taresh Varshney has more than 13+ years of experience at Larsen & Toubro, an Indian multinational engaged in technology, engineering, construction, manufacturing and financial services with over USD 17 billion in revenue. He is presently driving operational excellence & facilitating improvement initiative projects across L&T businesses. His areas of expertise include Value Engineering, Lean Six Sigma, Creativity & Innovation, TQM, SQC, Value Stream Mapping (VSM), 5S: Principles of housekeeping, Root Cause Analysis, Gemba Kaizen, Lean Manufacturing, Global 8D Problem Solving Technique, etc. He is actively involved in Indian Value Engineering Society (INVEST's) PACE activities as one of the senior dignitaries.

«International Presentation 3» Redefining transportation infrastructure projects using Value Engineering
Christine Stephanie Laumond, SYSTRA Philippines Inc.

The establishment of the Philippine VE manual was initiated in the year 2009 by the National Economic and Development Authority (NEDA) in the year 2009. Since 2013, NEDA has increased its efforts to institutionalize VE by bidding out contracts to consultants, starting out with transport infrastructure – related projects.



Because transportation infrastructure projects in the country are defined by the proponents, mostly from the private sector, the government simply accepts or declines the proposal based solely on the completeness and political backings of the project. Thus, the likelihood that the projects have thoroughly considered all technical and sustainability factors are unlikely. In response, the NEDA invites consultants to conduct VE studies on these projects in order to find ways to improve the project. Such improvements go to the extent of redefining the alignment and technology for the project in order to deliver an improvement to the proposed public transport system.



Christine Stephanie LAUMOND is Manager, HR and Administration at SYSTRA Philippines Inc. Since 2014, she has led and participated in SYSTRA Philippines' value engineering/value analysis projects. She acquired in 2016 a certification as a Value Methodology Associate granted by SAVE International following an extensive 5-day Module 1 workshop held in October 2016 in Toronto, Canada.

«International Presentation 4» Value Analysis on tractor front axle assembly
INVEST Award Winning Presentation: Mahindra & Mahindra, Ltd.



To sustain the growth in business & to continue market leadership, Mahindra Tractors has adopted the most effective approach of Value Engineering methodology. To insulate our products from increasing raw material cost, dedicated & experienced team consists of VA-VE experts is formed to optimize existing components design. VA-VE is a creative tool which focuses on the cost function analysis & helps to understand requirements of product or components to achieve intended function.

Front Axle assembly being one of the most important parts for customer safety, its design was not challenged for many years together. We as a VA-VE practitioner, decided to challenge the design with help of strong VA-VE tool - Cost Function Analysis. Through function analysis it could be revealed that, secondary function of Front Axle assembly can be achieved by design optimization of Front Wheel Hub assembly and its child parts. The major challenged faced during project was establishment of testing

process & design suitability for all the tractor variants. The team has proved that by taking calculated risk & accepting no limits, we can achieve multiple benefits like weight optimization, inventory cost reduction, resolution of field irritant, saving in material cost of Rs.32 million & reduce Carbon Foot Print.

Ms. Priya Davis (VMA) is working in Plant Vehicle Engineering (PVE) department of Mahindra & Mahindra Farm Division, Mumbai, since 2011 as Manager – Tractor aggregate. She is responsible for execution of Value Engineering projects. She is a Mechanical Engineer having total experience of 12 years in the field of Product Design, Value Engineering & Project Management. She has been actively participating and contributing in achieving organizational goals through Value Analysis & Value Engineering projects.



Mr. Mahadev Gavade is working in Quality Assurance (QA) department of Mahindra & Mahindra Farm Division, Mumbai, since 2005 and currently holding position as Deputy Manager. He is responsible for PPAP closing activity of new component development, Toolings/ in process fixtures/ Process setup and productionisation of Sheet Metal & Fabrication parts and Front Axle assembly along with execution of Value Engineering projects. He is responsible for conducting System, Process & Product audit at Supplier. He is an Mechanical Engineer having total experience of 15 years in the field of, New Component Development Quality, Production, Value Engineering & Project Management. He has been actively participating and contributing in achieving organizational goals through Value Analysis & Value Engineering projects.



Mr. Kishor Satpute is working in Component Development Materials Management (CDMM) department of Mahindra & Mahindra Farm Division, Mumbai, since 1998 and currently holding position as Sr. Manager. He is responsible for new component development, Toolings/ in process fixtures/ Gauges development, Process setup and productionisation of forging parts and Front Axle assembly along with execution of Value Engineering projects. He is a Production Engineer having total experience of 26 years in the field of marketing, sourcing, Component Development, Value Engineering & Project Management. He has been actively participating and contributing in achieving organizational goals through Value Analysis & Value Engineering projects.



■ Forum

«VE Education Forum» VE Education in a new way ~from evaluation of results to qualification of VE instructors~

Recently there has been a big change in the environment surrounding VE education. Some companies say that VE training is based on group exercises, so young generation staff are participating actively. However, others complaint that the VE training program is not working effectively due to the retirement of in-house VE instructors or ineffective practice or result of VE after the training workshop. In this forum,

we invite 3 leading promoters of VE education from different background and ask them to share their experiences and discuss what is the goal of VE training, competencies required for VE instructors and much more.

Panelists

K. Inami, CVS, V.I.P Planning

M Oda, CVS Mitsubishi Electric Corporation

S. Matsushima, VES, Toda Corporation

Moderator

T. Hattori, CVS, President, TED Value Consulting

《New Product Development Forum》 "Function Analysis to promote evolution in products ~Organizing functions in new product planning~"

The concept of VE was first introduced 70 years ago. Since then, products have been evolved in accordance with the changes in environments surrounding the society and companies. It is necessary to have a new style in function analysis in order to have VE better contributed to product innovation.

In the last year's VE conference, we had an open discussion forum related to the new concept of understanding the enhanced and expanded scope (vertically and laterally) of the definition of function. This year, as a second stage, we would like to ask everyone's opinion on compounding and optimization of lower-order function for new product development by changing how to organize functions and set constraints after the first stage of expanded scope of the definition of function has been implemented.

Presenters

Y. Watanabe, CVS, Nabe Vale Clinic

Member of SIG on Meta-VE, Japan Association of Management System Researchers

Moderator

M. Tanaka, CVS, Ph.D., Tokyo University of Science

President, Japan Association of Mgmt. System Researchers

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