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DETECTION OF RESERVE PRODUCTION ORGANIZATIONS BY RAISING THE PERFORMANCE OF THEIR PRODUCTION PROCESSES

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Early detection of defects in manufacturing processes, continuous improvement of efficiencies of production processes, knowledge and elimination of process parameters that causing undesirable outputs from production processes, openness of company to changes, are key attributes of increasing competitiveness in every sector of human activity. Benchmarking as an important tool for bringing information about the level of process from the outside, helps organizations know whether their strengths and weaknesses and to realize the factors which the organization is in the process of improving performance of processes to draw their attention.

As a quality management and improvement technique, benchmarking basically stems from Deming's management theory which aims to enhance quality and check its sustainability by several stages followed in order. Despite this, benchmarking is given many different definitions by various organizations and authors even though each aims to reach the same goal. The Webster Dictionary defines benchmarking as "a standard by which something can be measured or judged" (Camp 1989a:248; emphasis added).

Benchmarking is defined by Camp simply as "the search for industry best practice that leads to superior performance" (1989b:66-68; emphasis added).

Benchmarking is the process of identifying the highest standards of excellence for products, services or processes, and hence making the improvements necessary to reach those standards, which are commonly called "best practices" (Biehl, Cook, & Johnston, 2006; Bhutta & Huq, 1999).

1. Definition of benchmarking process. A general definition of benchmarking is the process of evaluating and emulating the products, services, and processes of best performing organizations. Comparing the way a company

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performs a specific activity with that of its competitor enables that company to learn how to lower costs, reduce defects, increase quality, improve performance or even identify some best practices linked to company excellence (Donthu et al., 2005).

Benchmarking is not regarded as a competitive analysis; it focuses on learning and forms the basis for change. The organization conducting the benchmarking analysis uses the information found in the process to establish priorities and target process improvements. That can change business practices. Therefore, specifically, benchmarking is defined as a market-based learning process through which a firm seeks to identify best practices that produce superior results in other firms and to replicate these practices to enhance its own Competitive advantage (e.g., Camp, 1995; Mittelstaedt, 1992).

Eight steps are employed in the benchmarking process (e.g., Camp, 1989, 1995; Garvin, 1993):

- 1) identify processes, activities or factors to benchmark and their primary characteristics,
- 2) determine what form is to be used: generic, functional, competitive or internal,
- 3) determine who or what the benchmark target is: firm, industry, or process,
- 4) determine specific benchmark values by collecting and analyzing information from surveys, interviews, business or trade publications, and other sources of information,
- 5) determine the best practice for each benchmarked item,
- 6) evaluate the process to which benchmarks apply; and establish objectives or improvement goals,
- 7) implement plans and monitor results, and
- 8) recalibrate internal base benchmarks.

2. Practical implementation of benchmarking in the manufacturing process. The subject of our research is comparing of system for recording and managing of non-conforming products between the two sister organizations in the electronics industry.

It is the product-analog, logic and discrete components, which are an integral part of virtually every electronic system.

Compares the system MRB (Material Review Board) and the CADET (Corrective Action Defect Tracking Event) method of benchmarking.

MRB systems and Chad are systems for collecting and storing information about events that affect the production process of printed circulars or panel board. The knowledge gained from the analysis of comparison of MRB

with system CADET has achieved a more efficient system for recording and managing non-conforming products.

2.1. Brief description of the procedure, a comparison of MRB and CADET.

Application of general practice of benchmarking by comparing process of MRB and CADET system according to table nbr. 1.

1 phase: planning

- specify the goal: create a more efficient system for recording and managing non-conforming products;
- cooperating with the link person;
- creating preliminary plan and determine a preliminary timetable and data collection;
- determine the primary sources of gaining of information: PROMIS and current MRB database;
- ongoing joint meetings.

2 phase: analysis

- identify specific information from designated sources;
- meetings with discussion about data obtained from sources;
- obtaining notes from meetings of the MRB commission and supplement to our records.

3 phase: comparing

- meeting a person cooperating with other representatives of the department and obtain data from another source: CADET database;
- analysis of obtained information;
- a concrete comparison of MRB and Chad for the recording and management of non-conforming products.

4 phase: Preparation;

- evaluation, respectively analysis of comparison;
- discussion about results and possibilities of their implementation;
- meeting with the technologies on forthcoming changes;
- phase of testing.

5 phase: implementation;

- testing of a new system transition from MRB on CADET system;
- MRB maintenance database system as a backup;
- supervise the new system, a group of IT professionals in the event of non-compliant product uncaught;
- continues implementation of minor changes found by operating system.

2.2. Comparing and analysis of systems MRB and CADET. In listed table is describe of comparing MRB and CADET systems for recording and management of non-conforming products and their final analysis.

Table 1. General advance by benchmarking

Phase of benchmarking	№	Related activity
Phase 1: Definition and planning	1.	Definition of goals benchmarking project
	2.	Put together of project team, planning of organization project
	3.	Design of processes (raw design), documentation of processes (definition, critical factors of success, accessed parameters)
	4.	Determination of method internal collection data
	5.	Identification of potential benchmarking partners /contacting with them
	6.	Common beginning designing work meeting
Phase 2: Internal analyses	1.	Probing out general data
	2.	Concretization of own process: <ul style="list-style-type: none"> • modeling and analysis of process; • addition of relevant assessed quantity and output; • indicators; • internal probing of data
Phase 3: Comparing and analysis / Identification of potential improve	1.	Comparing of general numerical data with potential partners of benchmarking (for example by workshop)
	2.	Choice of apposite partners of benchmarking
	3.	Probing data at benchmarking partners: <ul style="list-style-type: none"> • collective working out of detailed questionnaire; • visit of company / discussion with partners — probing of data
	4.	Comparing and assessment
	5.	Identification of strong position / potential of improve
	6.	Own interpretation of results
Phase 4: Planning of remedy/ Preparation of implementation	1.	Internal discussion about results (ensure willingness to changes) / possibly finishing meeting with partners
	2.	Deduction of relevant real goals and determination of priorities
	3.	Working out plan of remedies / determine strategy of improvement
	4.	Working out of project plan
Phase 5: Realization / Implementation of improvements	1.	Realization and management of actions (Project controlling)
	2.	Checking advance of realization (control of adjusted goals)
	3.	Internal presentation of results/ ending of project
	4.	Assessment and documentation of results and course of project

Table 2. Comparing and analysis of systems MRB and CADET systems

Comparing of systems MRB and CADET			Analysis
Functionality	MRB system	CADET system	Advantage CADET over MRB
Summary of record in database	Short record of issue and decision of MRB commission	Detailed record of problem (including of photos) and decision of MRB commission	Retrospectively quick and simple come back to issue+ register
Record about incident in database	Particularly record in PROMIS and particularly in MRB database	One record-interconnection of CADET database with PROMIS	Simplification of operation
Control of impacted circulars on critical parameters	All Sid from circular CP also UP	Possibility select just "impacted" Sid on control CP and UP	Add as insert photos
Possibility of record of the same comment about incident	Repeated manual record for all impacted circulars	Automatically record just one- times for all "impacted" circulars	Reduction of possibility of mistake by record
Change of process "P" for "PE" (circular gets HDISPO)	Manual command by responsible technologist in PROMIS also in MRB database	By marking "MRB required" by responsible technologist just in CADET database	Simplification of operation
Access to database	Just narrow group of technologist, like quality controller	Freely to look on web side of company	Better Access to information
Recording of information about incidents to backward look	Just basic register	Detailed register type of MRB event and causations of their origin	Faster elimination of issues

End of table 2

Comparing of systems MRB and CADET			Analysis
Assistance by recording in database	Is not	Created helping texts	Simplification of operation
Automatic creating of charts	Automatic after entry of parameters of issue	Automatically after enter of code of issue	Simplification of operation
Design of internal 8D by MRB commission	Record according to approved model without possibility of register several cases of issue	Record according to approved model with possibility detail register of different and several cases of issue	Superior presentation with 8D manager of quality

2.4. Results of work. After careful analysis of the comparison system for recording and managing non-conforming products, the MRB and the CADET system, we have a new, more efficient system that for example:

- be able to turn quickly and easily return to the problem, respectively contribute to its elimination;
- allows its precision and quality to lead a detailed database on the problems encountered, including storing photos;
- simultaneously its simplicity reduces the possibility of error in the registration and is available to the current consultation.

The new system is applied to internal directives and also the production process.

It supported the efforts by the permanent reduction of non-conforming products significantly by improving the communication of non-conforming products and not just in the process, but also communication with customers and thereby contribute to increasing the quality of products and services. And in least resort to base development of analysis and knowledge will help in creating a new single-functioning global system CADET Global System for recording and managing non-conforming products.

Result and discution. Does benchmarking as a tool for increasing efficiency of production processes and competitiveness of the enterprise, as such, future? The characteristics of this form of promoting strategic approaches and analysis

of information on benchmarking shows that benchmarking has a future, more broadly, especially in small and medium-sized enterprises.

It should be noted, however, the fact that a significant impact on preventing the introduction of benchmarking methods in production processes in small and medium-sized enterprises, such as. eg. heavy data collection and risk of “copies”. Information on literary publications, from consultants and the like. often fail to produce desired data associated with the process of applying benchmarking. Problematic factors may also direct contacts in the form of an interview or visit to a partner through benchmarking, particularly in terms of direct competition, whereas the information displayed competitive advantage.

Another fact is that benchmarking is aimed only to compare the parameters freely available, which means that come the most valuable information — how to get a partner achieve these parameters. And last but not least is time-consuming analysis of the results, you can afford in terms of allocation of workers, only large enterprise.

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ВИКОРИСТАННЯ МЕТОДІВ КОНТРОЛЬНОГО ТЕСТУВАННЯ ДЛЯ ПОЛІПШЕННЯ ВИРОБНИЧИХ ПРОЦЕСІВ НА ПІДПРИЄМСТВІ

Попереднє виявлення дефектів у виробничих процесах, безперервне підвищення ефективності процесів виробництва, знання і виключення технологічних параметрів, які призводять до небажаних результатів від використання процесів виробництва і відкритість компанії до змін є ключовими атрибутами до збільшення конкурентоспроможності в кожній галузі людської діяльності. Контрольне тес-

тування є важливим аргументом для одержання інформації про рівень процесу ззовні, яке допомагає підприємству пізнавати свою силу та слабкі сторони, та реалізувати фактори, на які організація в процесі діяльності має найперше звертати увагу.

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ЛОГІСТИКА ПРОЦЕСІВ УТВОРЕННЯ НЕБЕЗПЕЧНИХ СИТУАЦІЙ НА ВИРОБНИЦТВАХ АПК ТА ЗАПОБІГАННЯ ЇХ НАСЛІДКАМ

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Описані процеси утворення небезпечних ситуацій при роботі машинно-тракторних агрегатів за допомогою операцій логістики та показано обґрунтування заходів щодо запобігання виникненню небезпечних наслідків на виробництвах АПК.

Проблема. Відомо, що на механізованих процесах АПК України щорічно серед працівників трапляється значна кількість різних за важкістю виробничих травм, аварій та захворювань. При цьому за відносними показниками рівень виробничого травматизму в аграрній галузі значно перевищує рівень аналогічних показників європейських країн. Працезахоронні заходи, що щорічно спрямовуються на розв'язання даної проблеми, практично не дають бажаних результатів. Професія механізатора в Україні залишається однією з найбільш небезпечних в АПК.

Можна констатувати, що у нашій державі немає досконалої концепції щодо запобігання аварійності і травматизму на виробництві, яка відображала б систему поглядів вчених і опиралась би на результати їх наукових досліджень. Відповідно до цього часу при розслідуванні важких аварій і травм на виробництві експерти застосовують метод, що базується на їх власному досвіді. Відповідно, чисельні нормативні документи з охорони праці розробляються і приймаються без глибоких наукових обґрунтувань.

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