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ASPECTS OF HUMAN ELEMENT MANAGEMENT IN SHIPPING

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During the last several years special attention has been paid to the role of the human element in shipping. The question “How to make the ship crew management more effective and efficient” is in the very centre of the discussions. The most popular answer is to make this small group, the crew, behave as a team. Not disparaging this approach, the paper aims to present some good management tools that can help to improve the ships’ crew performance. The paper is focused on the specific area of reducing the negative effects of the cultural shock in multicultural environment. The general thesis is that there are some management tools that work and bring for predetermined results in the specific sphere of crew management.

Currently, there is an indisputably imposed thesis that the ship is a complex technical facility which is a “*man-machine system*”, generally determined as an “*aggregate of operators and technical means used in labour activity*” (Topalov, 2015). The correct implementation of the systemic approach requires consideration of the environment for functioning of that system. Assuming that the environment is not purely physical and expanding the approach, we shall inevitably reach the model representing the system as an inter-related aggregate of:

- Technology;
- Individual;
- Group;
- Organizational environment;
- Society and culture;
- Practice;
- Physical environment.

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This multi-component model is known as the “*Septigon Model*” (Koester, 2007). That model is useful because “it captures most of the human factors elements that form part of the maritime system)” (Michelle, 2008)¹.

Disregarding the “*Septigon Model*”, the components of the system can be re-defined in three groups:

- Human factor related components;
- Technology;
- Physical environment.

The optimization of the functioning of those three groups of components is important from the point of view of safety.

As far as the opportunity for our influences over the Physical environment are strongly limited and currently reduced to prognostication, then the Human factor related components and Technology shall be definitely subjected to optimization.

In the recent 2-3 decades, technologies marked an exclusively quick progress. It is unlikely to be forcedly to say that the reliability of their trouble-free functioning had reached high values close to the marginal possible values. Unfortunately, this is not the same for the question of Human factor related components. Presently, different sources present the share of human errors as a reason for about $\frac{3}{4}$ of the accidents at sea (U.K. P&I Club, 1997) (U.S. CoastGuard, 1995). In response to the outlined negative trend, several concepts emerged which are closely directed to optimization of the Human factor related components. Classically, these concepts are related with organizational behavior, leadership, human errors.

Studying the factors influencing the performance of the ship crew members, the Nikola Vaptsarov Naval Academy carried out several polls with representatives of all categories of the ship crew. Almost unanimously, the performed polls imposed the opinion that the problem with the cultural stress falls among the main factors influencing the emotional satisfaction of the crew. It is appropriate to present briefly the processes accompanying cultural adaptation before suggesting a certain approach to overcome the problem.

Upon falling among a foreign cultural environment, every individual passes through a process of cultural adaptation. Scientific literature describes that process with the so-called Lysgaards’ U-curve hypothesis, which follows the processes of adaptation to a new culture. Later on, that model is further developed by Gullahorn and presented as a “*W-model*” of social adaptation (Gullahorn & Gullahorns (1963) *W-curve hypothesis*) (Gullahorn, 1963). Insofar as the

“*W-model*” of social adaptation also discusses the processes of reverse adaptation at return, it is more appropriate for discussion. Insofar as the Gullahorn model is too schematic, then it is presented in the way implemented in the site DepartSmart, available at <http://web.viu.ca/studyabroad/DepartSmart/>.

The graphic presents the degree of emotional satisfaction during the different stages of the stay on board.

Assuming a normal level of emotional satisfaction, presented with a horizontal dashed line in the graphic, we can project the deviations to that level with the purpose to differentiate the stages of cultural adaptation. More specifically, those stages include:

- Emotional fluctuations before departure;
- The “*Honeymoon*” stage;
- The stage of cultural shock;
- The adaptation stage;
- Emotional fluctuations before return;
- Satisfaction after return;
- Nostalgia for the foreign culture;
- Adaptation to life at home.

Emotional fluctuations before departure are seen during the first stage. The individual has an increased feeling of anxiety. There are strong fits of nostalgia and concern from the forthcoming separation with the relatives. These feelings intensify because while recognizing the forthcoming separation, people become more tolerant, the problems are suppressed and everything seems to be put in order. There is a sensation of quickly running time. With a sufficiently big length of experience, that condition is born easier. Classically, it passes with the fact of beginning of the trip. The individuals with healthy psyche who had a longer practice of the profession adjust exclusively quickly to the new task even in the early dynamics of travelling to the new workplace.

Upon arrival, and even earlier, during the trip, there is a transfer to a state of increased emotional satisfaction, the “*Honeymoon*” stage. There is eagerness to enter the new environment and a positive emotional adjustment. Things are interesting, contacts are friendly, communication is well-intentioned and there is an increased working capacity as a whole. The condition may last between few days and several weeks, depending on the environment and the emotional adjustment of the individual.

However, soon the cultural differences happen to contradict our traditional understandings, a nuance of irritation appears. The more known is the new environment, the more irritating the cultural differences become. The individual limits their contacts and falls in a state of a cultural shock. Emotional fatigue appears.

¹ For further information about the maritime metasystem, the authors recommend “(Michelle, 2008)”.

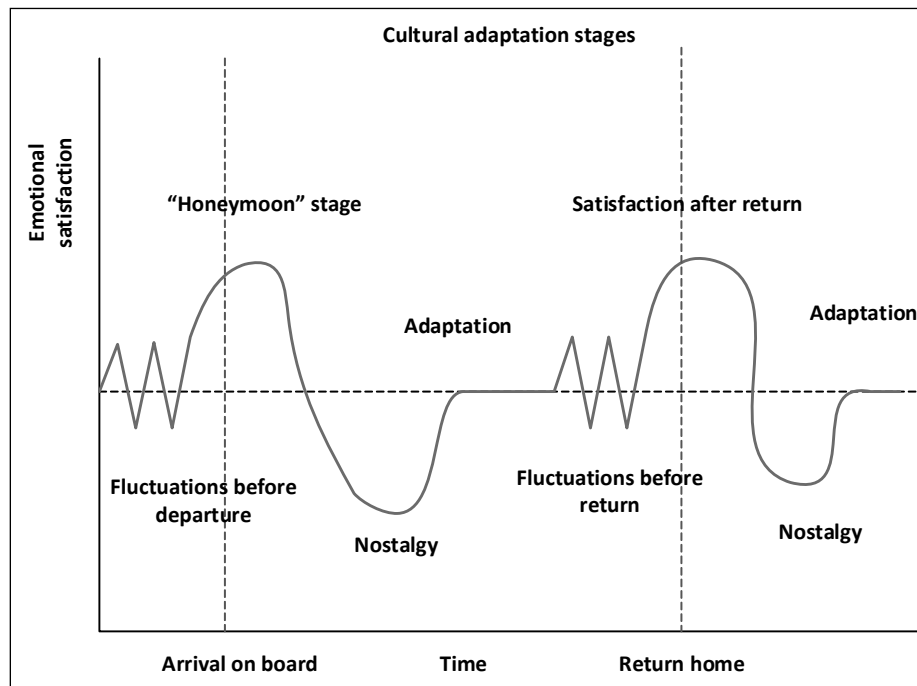


Figure 1 Cultural adaptation stages. The graphic is borrowed from the site DepartSmart available at <http://web.viu.ca/studyabroad/DepartSmart/>

The popular name of the final manifestation of such behavior among sailors is “to act inappropriately (crazy behavior) because of homesickness”, and scientific literature calls it “homesickness”. At that stage, the behavior of the individuals is annoying and is not tolerated by the crew, especially by that part of the crew who arrived with an earlier shift. The individuals with long working experience are acquainted with the stage of cultural shock and can suppress it to a great extent.

We need to outline several factors that cause a cultural shock and deepen its symptoms:

- Stress;
- Cognitive fatigue (difficult thinking). The syndrome of professional exhaustion (burnout) appears;
- Role changes;
- Personal shock.

It is appropriate to point out in general the techniques for coping with the cultural shock. The first group of techniques is related with the individual training.

In the first place, it is appropriate to learn more about the cultures of the nations that are expected to form the crew. Nowadays, Internet offers many sources of advices for the specificity of culture of different nations along with recommendations for behavior.

It is also appropriate for the individual to compile a plan for personal building during the stay at a different culture. In all cases, it is appropriate to make sense of

the free time not only with entertainments but also with activities like learning a foreign language, mastering a new profession, development of specific new knowledge.

In addition, we need to be prepared also for coping with any ethnical and religious prejudices.

If the individual belongs to a nation or race that often becomes subject to such prejudices, then a little humor and prior preparation with jokes on this subject will not be redundant.

Next, the individual should be aware of the manifestations of cultural shock and their consequences.

The choice of behavioral style and self-education in tolerance are very suitable techniques. The positive perception of reality is strongly recommended. Mastering of rules of communication and reliance on standards of behavior are very important.

We should add that communication within a friendly circle is the best anti-stress factor. Making friends and maintenance of amicable relationships is a strongly recommended technique. Considering that communication is always based on a sign of community, then searching for such a sign should be made continuously but not obtrusively. The appropriate signs for a community for communication include common experience, artistic interests, hobby, sport and arts. In such communication, avoid deepening in such topics to an extent that can cause boredom in the interlocutor, or suppose exposition of an opinion opposite to the one of

the interlocutor. The skill to listen is of paramount importance.

The instruments of social interaction should not be underestimated as well. In all cases, the participation in the life of the work group shall be tolerated. Generally, adherence to established traditions and respect to national and religious holidays is well accepted. The registration of attention for a certain occasion and in a way adopted in the foreign culture is a good approach for integration within the work group. It is also appropriate to generate traditions and holidays in an unostentatious way. For instance, to celebrate somebody's national holiday with a menu that is traditional for the country, to present a symbolic gift, etc. are appropriate models for social interaction. Showing interest and registration of knowledge about the national traditions and history of the interlocutor is also very important, to the extent that the topic is not subjected to excessive comments and comparisons.

Other approaches to overcome the cultural shock are known as well. Without going into details, we are interested in the existence of other control models acting irrespectively of the will of the individual.

Going back to the graphic in figure 1, we need to say that as a minimum, the idea for control of the cultural adaptation is to decrease the amplitude of deviation from the normal condition of emotional satisfaction, combined with decrease of the duration of those deviations.

It is appropriate to assess the role of control considering that background. As a whole, there are different models of control but for the current study, it is appropriate to follow the model presenting the following styles of control (Williams, 2011):

- Bureaucratic;
- Objective;
- Normative;
- Concertive;
- Self-Control.

Bureaucratic controls are top-down, management-based, and measurement-based. It is based on organizational policies, rules, and procedures. This type of control uses rewards and punishments to influence employee behavior and uses policies and rules to control behavior.

Objective controls are also top-down, management-based, and measurement-based. It is based on reliable measures of behavior or outputs. It uses observable methods. There are two types of objective control:

- Behavior control, that regulates actions and behaviors of employees;
- Output control that measures employee outputs and is coupled with use of rewards and incentives.

Normative and concertive controls represent shared forms of control because they evolve from company-wide or team-based beliefs and values.

Normative control is based on strong corporate beliefs and careful hiring practices. Company values and beliefs guide employee behavior and decisions. This control is supported by careful selection of employees and role-modeling and retelling of stories.

Concertive control is based on the development of values, beliefs, and rules in autonomous work groups. Employees are guided by beliefs that are shaped and negotiated by work groups. It is applied by autonomous work groups that operate without managers and have members responsible for controlling work group process, outputs, and behavior.

Self-control, or self-management, is a control system in which managers turn much, but not all, control over to the individuals themselves. Self-control is based on individuals' setting their own goals, monitoring themselves, and rewarding or punishing themselves with respect to goal achievement. The particularities of this type of control are:

- Employees control their own behavior;
- Employees make decisions within clear boundaries;
- Managers and employees set goals and monitor their own progress.

The hints for applying these control methods are of significant importance (Williams, 2011):

1. Use bureaucratic control when standard operating procedures are needed and it is necessary to establish limits.
2. Use behavior control when it is easier to measure activities than outputs, "cause-effect" relationships are clear and good measures of behavior are available.
3. Use output control when it is easier to measure outputs than behaviors, good measures of output are available, clear goals and standards are available and "cause-effect" relationships are unclear.
4. Use normative control when culture is strong, it is difficult to create behavior measures and it is difficult to create output measures
5. Use concertive control when there are group responsible for task accomplishment, workers take "ownership" of behavior and outputs and strong worker-based control is needed.
6. Use self-control when workers are intrinsically motivated, it is difficult to create behavior measures, it is difficult to create output measures and workers have self-control and self-leadership.

Comparing, on one side, the problems arising from the cultural stress and cultural adaptation, and the models of control, on the other side, imposes the idea that it

is possible to overcome the cultural shock through establishment of clear standards originating from the policy of the company and the rules for work, imposing a strict system of incentives and sanctions and maintenance of the desired level of operability.

The inference that the bureaucratic style is the suitable model for control in the process of cultural adaptation is inevitably imposed.

This is due to the following advantages of that model:

- This style does not rely on voluntary adherence to standards but imposes them, in case of need forcibly as well;
- It is appropriate for the hierarchical systems;
- It introduces clear relationships in the hierarchy of the organization;
- It suggests that each of the participants in the process will strictly adhere to a certain role;
- It relies on preservation of a rational degree of effectiveness and efficiency in the process of functioning;
- It contributes for a short or almost no change of performance during the change of leaders or workers.

The bureaucratic model is apparently feasible. Moreover, this method is imposed as a recommended method for coping with the negative consequences of stress among the crew.

On the other side, we should not neglect the opportunities of the models such as the objective and normative ones, and even the concertive model, considering that the concertive method is strongly corresponding with the concept of leadership. This imposes the apparent inference that the style of control should be selective and evolving.

Considering selectivity, there is a concept that the higher is the hierarchy on the ship, the better is the staff

selection, and the higher are the self-consciousness and self-discipline. In such conditions, in respect with the higher units of the ship's hierarchy, there should be a gradual transition from bureaucratic through objective and normative to concertive control.

As far as evolution is concerned, then in the initial stage of staff formation (after change of the crew) and with the development and fitting of the team, there should be a gradual transition from bureaucratic to objective, and even to normative control. In that aspect, it should be noted that concertive control remains a good but hardly achievable wish.

In all cases, the leader is recommended to apply bureaucratic control in the beginning of their mandate (the shift), at least until the leader becomes oriented in the settings and convinced that the standards are followed and the processes run according to the established procedures.

REFERENCES

- [1] Gullahorn, J. a. (1963). An Extension of the U-Curve Hypothesis. *Journal of Social Issues, Volume 19, Issue 3, July 1963*, 33-47.
- [2] Koester, T. (2007). *Terminology work in maritime human factors. Situation and socio-technical systems*. Copenhagen: Frydenlund Publishers.
- [3] Michelle, R. H. (2008). *Human factors in the maritime domain*. New York: CRS Press Taylor & Francis Group.
- [4] Topalov, V. a. (2015). *Human factor in shipping*. Odesa: Astroprint.
- [5] U.K. P&I Club. (1997). *Human error. Analyses of major claims. Principal causes within the five major risk categories insured by the U.K. club*. London: P&I Club.
- [6] U.S. Coast Guard. (1995). *Prevention through people*. Washington: Department of Transportation, Quality Action Team.
- [7] Williams, C. C. (2011). *MGM D*. Cengage Learning. Retrieved from Slide Player.