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# PERFECT MODEL OF MINING EQUIPMENT USER REQUIREMENT BY C. CONLEY

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**Abstract**:
For mining equipment manufacturers complex recognition customers – mining equipment users requirements and expects is creating new possibilities as products improvement. It is also lengthening the odds on commercial success. Basing on Chip Conley's point of view in article is presented authors recommended model of customers – mining equipment users requirement end expects

***Key words**: mining equipment, selling, client, C. Conley`s model*

## INTRODUCTION

Presented in general by Maslow in 1943, and further developed in 1954 hierarchic model of person's needs [9] became one of key, but not only' models of person's needs [7].

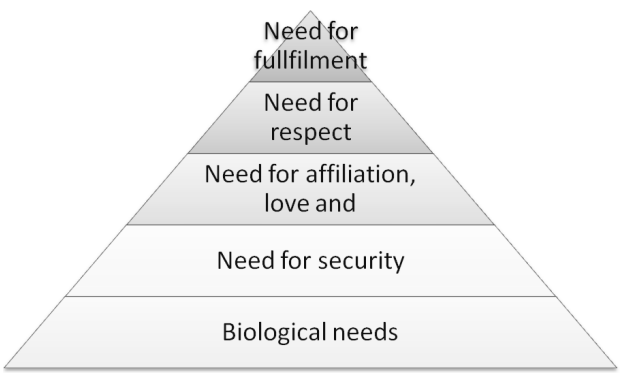


***Fig. 1 Maslow's hierarchic model of person's needs***
*Source: [9].*

At the beginning of 1960s the term of stakeholders has appeared in the meaning of subjects (people, group of people, organizations, institutions), who can influence the organization and are influenced by the organization's actions [4, 8]. Identification of expectations, desires and needs of stakeholders and building the strategy concerning expectations and providing ones possible reactions may increase chance of company in modern times to succeed [6]. Focusing on the needs of basic stakeholders became the core of success of an American businessman Chip Conley' who has described his thoughts and experiences in several books [1, 2, 3]. On the basis of numerous observations of negotiations, sale and complaint processes in companies offering machines for the mining industry the Authors have made an attempt to build up a possibly complex model of expectations, desires and needs of a stakeholder- recipient of mining machines, devices and technical systems.

## BASIC STAKEHOLDERS NEEDS ACCORDING TO CONLEY

Within his work Conley [1, 3] has presented modified pyramid (model) of human's needs based on Maslow's model is presented in Fig. 2.


***Fig. 2 Human's needs hierarchy according to Conley***
*Source: [3].*

Noticing stakeholders presence of their company (Joie de Vivre Hotels), Conley has defined three basic groups, which may influence the company's success. They are as follows:

- employees,
- clients,
- investors [1, 3].

Basing on his pyramid of human's needs, Conley has presented hierarchy of employees needs in Fig. 3.


***Fig. 3 Conley`s hierarchy of workers needs***
*Source: [3].*

Basing on his own observations Conley has presented that company, which is to succeed in long-term ought to start with appropriate attitude towards employees. It can be stated that such model presents used since many years attitude towards employees of Polish hard coal mining industry.

Conley notices Sam Watson's conclusion, tat: 'the only boss of a company is external client, because of his ability to fire anyone – from CEO to manual workers, he just needs to take his money somewhere else'.

That is why Conley states: *Customers are the most important to every company. Excellent working conditions, if not related with proper customer service, are not enough for company to survive* [1, 2, 3].

This thesis was the basis for creating a model of gradation of customers types founded on their expectations and needs (Fig. 4). On the basis of C. Conley's model the Authors built a model of a customer's needs – a user of machines, devices and technological systems in mining industry. C. Conley treats a customer as a stakeholder who builds an added value of a company in a long-term time span, especially in conditions of a turbulent market environment and potential crisis.

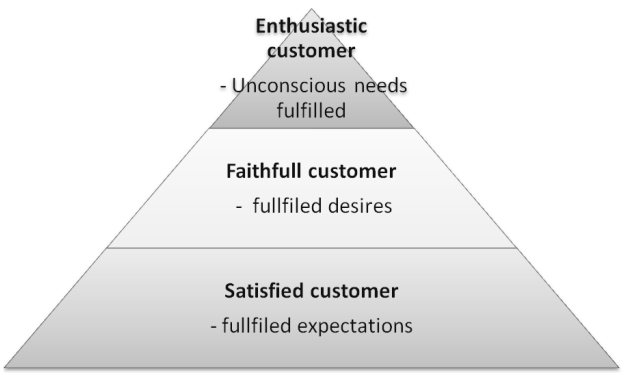


***Fig. 4 Customers gradation according to fulfillment of their needs, expectations and desires according to Conley***

The paper skips the hierarchy of needs of another group of stakeholders, the investors, due to the fact that it is not the thought of the following paper.

## MODEL OF CUSTOMER'S NEEDS- USER OF MINING MACHINES, DEVICES AND TECHNICAL SYSTEMS

On the basis of previous research [5] and interviews with users of machines, devices and systems in mining industry as well as an analysis of tender requirements specifications in Poland and around the world, an elaborate model of customer's needs (conscious and unconscious) was developed (Fig. 5). Meeting the premises of the model is supposed to bring us to the highest level of Conley's pyramid – an enthusiastic customer. The aim is not only to gain such a customer, but first of all to keep them – to build a loyalty relationship.

Basic economical expectations that customer has, however not always being conscious of them, are the lowest cost of machine's lifecycle, which, combined with fulfilling service expectations present expected effectiveness of the solution. In accordance with service expectations things that ought to be listed are fulfilling technical requirements (such as efficiency, availability, ability to transport and assembly) in specific conditions and within the whole lifecycle of the machine.

### *Economical (including cost) customer's expectations.*

Making the decision of gaining permanent means (machine, device or technical system) in mining industry, the customer has economical expectations presented in Fig. 6.

Economical expectations consider not only costs of gaining equipment but more and more often costs of whole lifecycle of machines and devices.

Very often customer has no financial possibilities for unassisted purchase of equipment. One is also afraid of financial risk connected with the purchase. Due to these, help in the area of financing of the purchase is expected and, more and more often, taking the part of the risk connected with insufficient economical and technical results by the manufacturer.

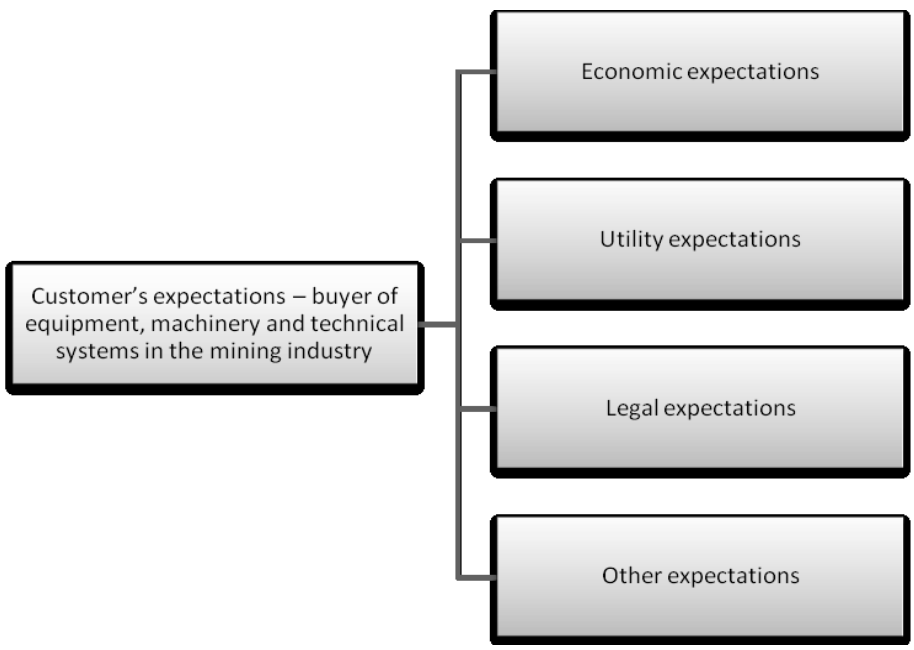


***Fig. 5 Basic groups of customer's expectations (needs)- machines and technical systems in mining industry user***

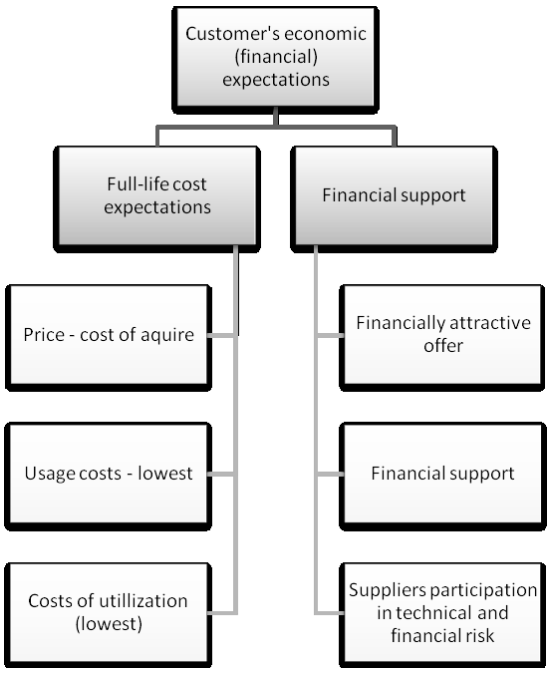


***Fig. 6 Model of customer's economical expectations***

### *Customer's service expectations*

Customer's service expectations are a group of expectations which are only partially taken into account in technical requirements (Fig. 7). For instance, in Poland they are described in Order's Key Requirements Specifications or other offer requirements. The fact that not all service requirements are described results partially from customer's.

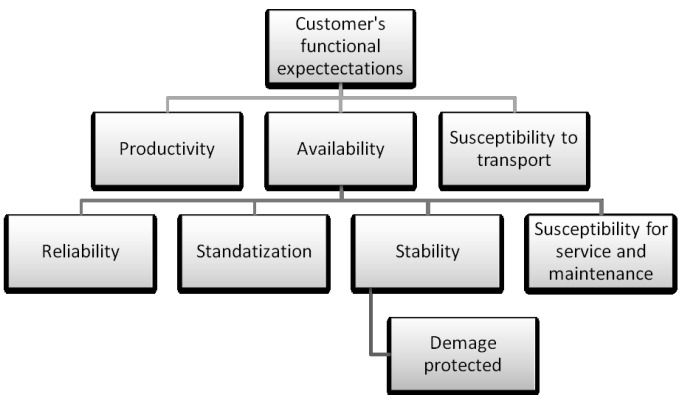


***Fig. 7 Model of customer's service expectations***

A good example is the expected efficiency of a machine or equipment. Very often user expects high efficiency (for example per hour), though the following factor is not the only one influencing real production results. Analysis conducted few years ago of technical potential of active mining walls equipment within one of Polish mining companies pointed out to theoretical ability to mine coal of circa 50 mining walls at the level of 460000 Mg per day with the real effectiveness of only 50000 Mg per day. It is worth emphasizing that limitations include not only methane or crump hazard, which are a consequence of mining and geological conditions, but also a degree of using available, effective work time, organization of the mining process and its management. The following restraints influence the level of exploitation of disposability, or the time of technical availability of whole technical system used in the process of extraction of hard coal. Observations of working time of wall equipment produced by FAMUR S.A. with the use of E-kopalnia [10] system present that one of the key factors limiting the level of utilization of available working time is, for example, lack of suitable employees. It is an organizing factor which influences the level of day output from a longwall. It is necessary to emphasize that currently the level of technical reliability of machinery and equipment produced in Poland which operate on longwalls, but not only there, ensures a higher availability of longwall complexes than their actual utilization degree. The service susceptibility may be treated as one of key components of mining machines and devices' availability (Fig. 8).

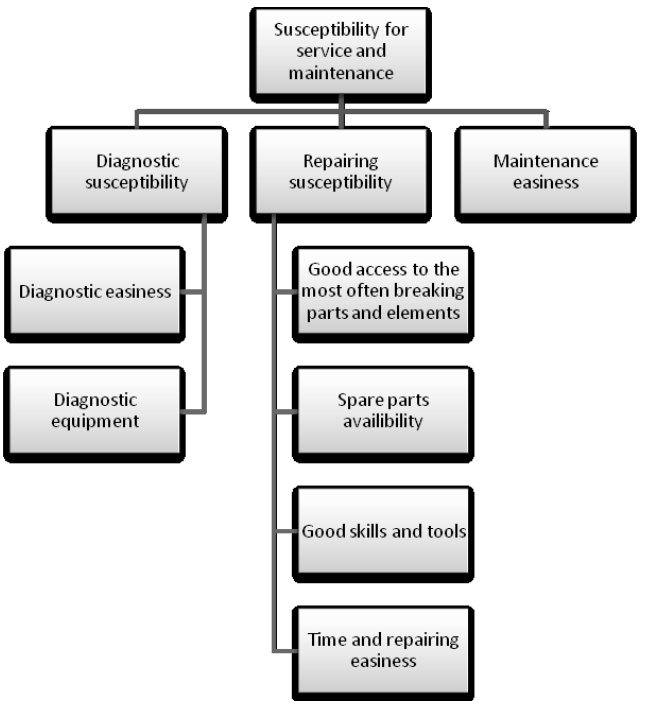


***Fig. 8 Services susceptibility of machinery or technical system as an element of customer's expectations***

A significant element of service susceptibility is the possibility of continuous diagnostics (monitoring) of technical condition of mining machinery and devices and the possibility of prediction of unwanted conditions. It allows to pursue maintenance actions at the time and place the most suitable to the user. An example of such a solution is the IT support system E-mine offered by FAMUR PLC [10] and similar systems of other producers. Those systems allow to conduct diagnostics of the state, location and workload of selected machinery and equipment.

### *Customer's legal expectations*

Legal expectations relate to conformity with the legal regulations that customer has to follow (Fig. 9).

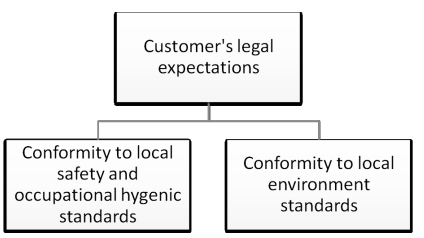


***Fig. 9 Customer's basic legal expectations***

Legal expectations, including the duty of technical certification of mining machinery and devices are to be assured to the future user becoming simultaneously the barrier of entering specific market (many different countries are not

satisfied with EU technical requirements and define, like USA, RSA or India, own requirements for mining machinery and devices). It is worth remembering before submitting an offer to a customer.

*Customer's othe expectations*

Recipient's other expectations are requirements not connected with the machinery or technical system (Fig. 10). Development of mining industry in countries without specific traditions, therefore without qualified human resources causes the appearance of the expectation that the deliverer of the equipment is to ensure, apart from standard training, also the participation of deliverer's specialists during the assembly of the machinery, its start or even while the whole lifecycle of the equipment. A common expectation of the recipient is also to be delivered machinery equipped with additional elements or functions concerning, for example' cultural reasons.

In many countries on of main expectations of customer's representatives are their personal profits, which may be a custom based on the country's culture.

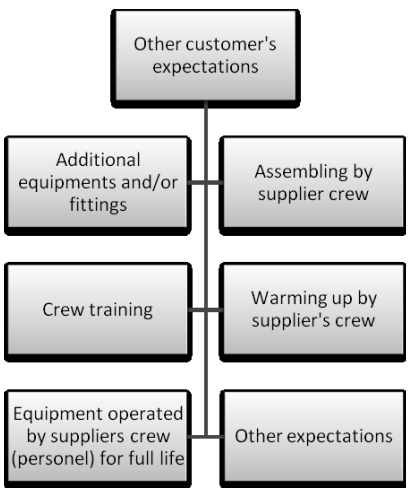


***Fig. 10 Other expectations of customer- user of machines, devices or technical systems in mining industry***

## SUMMARY AND CONCLUSIONS

The presented model is a result of observations, informal interviews and analysis of tender requirements in different countries around the world. It constitutes a systematic and general synthesis of requirements articulated by prospective users. The requirements are compared with the knowledge in the range of industrial processes organization realized in mines or mining companies.

Conclusions are to be presented as application possibility of the model by:

1. Mining machinery and devices producers as a tool of building of competitive advantage,
2. Mining machinery and devices producers as a general specification while assessing the possibility of joining the new market,
3. Mining machinery and devices users as the base of building requirements towards potential suppliers and becoming aware of, possibly full complexity of expectations ensuring the possibility of succeeding or, sometimes, avoiding failure.

Many potential users/buyers of mining machinery or technical systems while analyzing the causes of failure discovers not precised by them requirements. Simultaneously many producers or suppliers of such equipment while analyzing failures discovers their causes fragmentary.

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