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**LOYALTY AND WORKAHOLISM IN THE
METHODS OF HUMAN CAPITAL
EVALUATION (IN) AN ORGANIZATION
– A COMPARATIVE STUDY**

Abstract

The aim of the study is to show how selected methods of human capital evaluation determine loyalty and workaholism, the features affecting employees' efficiency. It was found that seven analysed methods of evaluation differ in terms of ways of defining generators and devaluators of human capital value. Based on the conducted analysis, it was found that the historical costs method, the discounted revenue streams method, the HR Balanced Scorecard and the Saarbrücken formula are not suitable for recognition of loyalty and workaholism as behavioral sources constituting the value of human capital. The most useful methods for their recognition were: Mayo monitor, risk – value method and personnel portfolio. The conclusion is that, with the use of the Mayo monitor, the dynamics of loyalty types and the types of workaholics, which correspond to the variable in the monitor, may be captured, forming the skills profile. Also the risk value method may depict a risk map for loyalty and workaholism, for example, to assess the quality of methods and their diagnosis. In turn, the personnel portfolio allows us to determine the dynamics of the share of different types of workaholism and loyalty.

Keywords: *methods of human capital evaluation, loyalty, workaholism, value generator, devaluator.*

Introduction

Both loyalty and workaholism are terms referring to the qualitative value of human capital – individual and team capital as well as the whole organization. Quality, on the other hand, determines human capital value which can be understood in a variety of ways (among others, as the replacement, strategic or market value). It is assumed that the way loyalty influences that value is different from the way workaholism affects it, i.e. loyalty is its generator, and workaholism its devaluator.

The aim of the article is to verify the assumption on the basis of critical analysis and reference books as well as to deal with the following research issue: What are the similarities and differences between loyalty and workaholism in selected human capital evaluation methods and can one identify the methods which would be more and less useful to determine generators as well as devaluators of human capital?

In the first section of the paper the state of research on loyalty and workaholism as the features that constitute the quality of human capital were presented. The evolution and the current stage of development of human capital valuation methods were also presented in this section.

1. The state of research on loyalty and workaholism as determinants of human capital quality

Loyalty and workaholism are not the only determinants of the human capital quality. However, these days they seem to be of great significance.

Employee loyalty can be described as “the (perceived) probability of work continuance in an organization by an employee with greater or lesser commitment – and certain emotional attachment towards the organization regardless of its image on the market – thanks to employee’s or other staff’s well-being or due to lack of other opportunities to find a different job or high costs of changing the employer“ (Lipka, 2012, p. 20). Such a definition of loyalty reflects the following types (singled out according to such inner mechanisms as trust, habit, commitment):

- partnership loyalty (there is trust, habit and positive organizational commitment),
 - commitment loyalty (there is trust and positive commitment),
- but it does not reflect the types of loyalty with no commitment, i.e.
- loyalty of convenience (there is trust and habit),
 - conscious loyalty (there is only trust),
 - loyalty out of habit (there is only habit).

It does not reflect those types of loyalty where employees’ commitment is of negative nature (e.g. employees sabotage the company’s operations), i.e.

- lenient loyalty (there is also trust and habit),
- conditional loyalty (there is no habit, but there is trust),
- helpless coercion loyalty (there is no trust, but there is habit),
- unaccepted coercion loyalty (there is no trust or habit).

The above definition refers to the most desired types of loyalty from the organization’s perspective. One should keep in mind that commitment, differentiating those types (apart from trust and habit), includes:

- affective commitment,
- continuance commitment,
- normative commitment (Meyer, Allen, 1991, pp. 67-69).

Partnership and commitment loyalty (and to a lesser degree loyalty of convenience, conscious loyalty and loyalty out of habit), especially that of indivisible and long-term nature, can be a behavioural boost to the human capital value as well as to the organisation itself for the following reasons:

- the influence on employment stability (so difficult to achieve in times of increased competition, lack of MVEs and battling to get the best personnel, even intensified by demographics and changing values), which helps increase company profitability (Reichheld, Teal, 2007, p. 159),
- smaller loss of customers (and its implications, e.g. increased turnover) (Gerpott, Paukert, 2011), which is of greater significance to services where tacit knowledge is vital (Schüller, Fuchs, 2005, p. 29),
- loyalty effect (Schüller, Fuchs 2005, p. 189), i.e. good performance after a longer period of employment (gaining experience),
- better work quality (the same reasons as in loyalty effect),
- smaller costs for training courses,
- greater resistance to marketing activities of competitive businesses among persons representing the above types of loyalty, and greater tolerance to lack of pay rise or even reduced salaries (Buchanan, Gilles, 1990),
- good opinions and referrals contributing to the company's human capital and clientele,
- cost reduction relating to turnover and training programmes,
- high staff morale despite witnessing (disloyal) employees leave,
- the viability of planning,
- cost reduction relating to controlling (Šmid, 2003, p. 141),
- lack of limitations in applying the latest management methods (e.g. *High Performance Work Systems*).

All in all, loyalty:

- affects attitudes and values (loyalty itself can be labelled as good attitude or conduct),
- prevents the loss of knowledge, aptitude and skills,
- contributes to company's healthy relationships,
- improves motivation,
i.e. improves all the components of human capital.

Workaholism, the other qualitative feature of human capital, is described as “obsessive commitment which is characterized by high employee's ambitions, inability to control habits in the workplace, and too much work (work dedication) connected with lack of the individual's activity in other areas of life, which

results in the deterioration of employee's well-being and dysfunctional interpersonal relationships (Wojdyło, 2010, s. 18). This syndrome is considered a type of addiction (Oates, 1971), which in opposition to other addictions is socially approved and it is even associated with high job performance. Workaholism is also described in terms of behavioural aspect (it is represented by A behaviour, which is characterized by fast pace of life, taking up extremely difficult tasks and setting high standards), affective aspect (job satisfaction), cognitive aspect (automatic thinking, fixed opinions and assumptions concerning work), attitudes towards work (overzealous) or compulsive-obsessive personality (perfectionism, exaggerated thoroughness, rigidity, inability to delegate work). All the above factors foster excessive involvement in a working life.

The main symptoms of workaholism include:

- inner obligation to work with no outer coercion (inability to 'cut off' from work and not to think about it),
- recognizing work as the core of one's life, which determines its purpose and establishes it as the main value as well as one's identity and self-esteem,
- loss of control over one's life in a working environment due to excessive involvement in one's work and setting too high, often unrealistic standards ("lost in work"),
- working life takes over other areas of one's life (lack of other activities, working time is extended to leisure),
- erratic behavior which results from applying defensive mechanisms (among others, ignoring the problem, rationalising longer working hours, compensating all kinds of emotional deficiencies, denying bad effects of work addiction),
- inability to "abstain" from work without some negative consequences, such as self-destructive thoughts and emotions (constant thinking about work, stress, guilt complex, anxiety) (Lipka, Waszczak, Winnicka-Wejs, 2013).

The definition of workaholism and its symptoms imply that it is a syndrome and a problem determined by personality, entailing negative consequences for an individual, their family as well as for an organisation. However, is the above-mentioned opinion on workaholism not one-sided (too clinical an approach) and radical? According to some researchers, such as Machlowitz, "workaholism is an employee's commitment to career life", "workaholics are passionate about their work" and therefore "the organisation reaps benefits employing such workers" (Golińska, 2011, p. 12). If one considers a broader context, including work as a priority in a value hierarchy and work ethics, then workaholism seems to be a natural consequence of high expectations from the family, working environment and society towards an individual.

One of such expectations is conscientiousness, which in Five Factor Theory by Costa Jr. and McCrae constitutes a dimension of distinctive features – one of five personality dimensions (apart from neuroticism, openness to experience, extraversion and agreeableness). Those factors include six components, describing the aspects of a given factor in detail. When it comes to conscientiousness, its components are as follows: competence, propensity for tidiness, obedience, an aim for achievements, self-discipline and prudence – qualities which are very appreciated in employees. Conscientious individuals being dutiful and disciplined as well as ambitious and industrious, become workaholics at some point` (McCrae, Costa, 2005, p. 65). But only conscientiousness taking the form of compulsion/obsession with work – shown in diagnostic criteria ICD-10 and DSM-IV-TR as exaggerated experiencing of doubts, rigidity and perseverance, focusing on details, perfectionism interrupting tasks completion – poses a problem to an organisation because it badly affects its functioning and the quality of human capital. Therefore conscientiousness may lead to workaholism, but not necessarily – it depends, to a great degree, on the management style and the ability to take advantage of human potential, company culture and the situation on the job market.

The consequences of workaholism are multidimensional. The following implications can be singled out here: personal well-being, the implications for workaholic`s social environment and risks for an organisation relating to employing workaholics. Workaholism affects all the components of human capital in terms of its value depreciation. And so, excessive involvement in a working life can badly affect knowledge, impairing individual`s memory, perception and focus as well as cognitive structures, including thought activation, hyperactivity of intellectual processes, escapism, reduced intellectual activity (Kalinowski et al., 2005, pp. 117-119). Accompanying anxiety may lead to certain losses (emotional atrophy) and a loss of certain skills, such as a skill of communicating clearly, a loss of empathy and sympathy (Killinger, 2007, pp. 111-153). Constant working typical of workaholism makes a human body function at full stretch at the cost of good health and well-being. The reduction of human capital value in this area may lead to bad health consequences and erratic behaviour – noticeable or inconspicuous (cf. Meissner, 2005, p. 49, after: Städele, 2008, p. 46). Workaholism can result in concentration problems, physical and psychological disorders, overtiredness, which can even lead to total depreciation of human capital (in the case of *karoshi* – an employee dies of overworking). Decreased value also concerns motivation. It is known that

workaholics are driven by inner coercion. Their motivation for work is determined by, first of all, a hidden motivation for their ego protection and self-esteem or gaining recognition from their colleagues (Porter, 1996, pp. 70-84). Workaholism also has an effect on employees' attitudes towards the ways of performing tasks and their relationships with co-workers. Perfectionism as setting too high standards and rejecting imperfect solutions can make it impossible to take full advantage of certain attributes of human capital in an organisation. If work becomes a paramount value (it becomes "god"), work-life balance might be upset, which, in turn, affects a person's functioning in various spheres of life.

It seems, therefore, that the direction of the impact of workaholism is different from that of loyalty. The quoted examples of lowering the value of all the components of human capital seem to indicate that workaholism can be described as a devaluator of human capital value. To state that it is essential to use human capital valuation methods. These methods are – to an extent which is larger than ever before (cf. Table 1) – in the center of researchers' interest due to the fact that they are treated as a component of business entities valuation – a component which is difficult to measure, but necessary to take into account, since without it a situation depicted as phase 6 (cf. Table 1) occurs.

HR specialists and managers have to take into account a possibility of using the results of human capital evaluation in personnel controlling. If an organization uses the strategy of maximizing human capital value, and generally, the idea of value management, one has to keep in mind that certain measurement means, e.g. those concerning loyalty and workaholism must be generally accepted.

Table 1. The evolution stages of human capital evaluation methods

Stages – Period	Description of the stage
1 mid 60s, 20 th c	Theory of human capital and the psychology of an organization
2 mid 60s – beginning of 70s, 20 th c	The development of the methods based on historical and replacement costs; Brummet, Flamholtz and Pyle introduce the notion of Human Resource Accounting
3 beginning of 70s – mid 70s, 20 th c	First applications of the designed methods in companies
4 mid 70s – beginning of 80s, 20 th c	Fewer researches, more combined methods, which leads to a decreased number of specialists for applying the methods
5 80s, 20 th c	Fierce competition between US and Japan leads to a greater interest in the field and greater significance of an employee in business operations; lack of solutions to the problems relating to the existing methods
6 beginning of 90s, 20 th c until the present day	New wave of a greater interest due to the increasing role of human capital and the existing value gap; change of market-to-book ratio

Source: Based on: Gebauer (2005, pp. 18-230); Dudycz (2005, p. 216); Lipka, Król, Waszczak, Satola (2008, p. 13).

The choice of valuation methods must have regard to organization strategies and boundaries, also methodical ones, to their applicability. In the previous study (Lipka, Król, Waszczak, Satoła, 2008) it was found that methodology issues connected with determining human capital value depend on:

- lack of justified assumptions and gaps in descriptions of research methodology,
- difficulties with establishing the basis for determining the value and assuming research method (the basis is understood as individual or team or human capital as a whole organization; omitting or taking into consideration so-called contextual factors relating to human capital management, i.e. the strategy, structure, company culture),
- problems referring to measuring the variables/ways of acquiring data (including economic as well as psychological and organizational data),
- difficulties of temporal nature (depreciation of human capital, changeability of the value generated by human capital in time: using historical and/or prospective data with the aid of the methods: a need to take advantage of future values in reference to the present ones),
- feedback problems: human resources management – human capital evaluation (narrowed down to the efficiency evaluation of HR practices),
- issues referring to the economic situation and management trends (e.g. increasing variety of human capital in an organization, flexibility, the application of lean management and work-life balance and downward movement programmes).

2. Hypothesis and testing procedure

The following hypothesis was formulated for the research problem specified in the introduction:

H₁: The methods of human capital evaluation differ in terms of loyalty and workaholism, which shows that some of them are less and others are more useful to specify given generators and devaluators of human capital.

In the study, selected evaluation methods were included, belonging in the following categories: cost (historical costs method), revenue (discounted revenue stream method), multiplier (Mayo monitor, risk value method), indicator (Balanced Scorecard), mixed (Saarbrücken formula), alternative (personnel portfolio) (some authors take into consideration only the first two categories). Access to the detailed descriptions of these methods and the clarity of algorithms during their application were considered while choosing the methods.

To verify the hypothesis by deduction based on critical analysis and reference books, the following sources of presenting evaluation methods were used: Brummet et al. (1968, pp. 221-223), Flamholtz (1975a), Mayo (2001, p. 14), Lipka (2007, p. 22-24), Scholz, Bechtel (2005, p. 32-36), Becker, Huselid, Ulrich (2002, pp. 65-89).

The following procedure was assumed:

- a description of loyalty and workaholism in terms of their contribution to a qualitative value of human capital and their influence on all the components of human capital, i.e. knowledge, aptitude, skills, health, motivation, attitude, values,
- loyalty and workaholism as determinants of human capital value in seven selected evaluation methods,
- comparative studies and the selection of the most useful method(s).

3. Loyalty and workaholism in selected methods of human capital evaluation in an organization

3.1. Historical costs method

In the most popular cost method – historical costs method (Brummet, Flamholtz, Pyle, 1968) – in its “most updated” version, retention investment costs (i.e. loyalty investment) could be incurred as follows:

- hiring – direct costs e.g. offering competitive remuneration as part of diversified personnel marketing,
- hiring – indirect costs e.g. loyal MVEs promotion,
- training – direct costs e.g. training programmes improving employee loyalty,
- training – indirect costs e.g. productivity loss during retention investment.

According to this method loyalty gauged by retention time increases human capital value. As far as workaholism is concerned direct hiring costs can be taken into consideration as in the case of loyalty, for example the costs related to hiring a non-workaholic, i.e. a person who can skilfully manage the time and take a rest after work, taking care of their health, knowledge, skills and motivation. Such costs are supposed to prevent or intervene in (reduce the effects of) workaholism. The same objective is ascribed to direct training costs (e.g. costs related to individual coaching enhancing time management), indirect hiring costs (e.g. employee reallocation costs preventing their workaholism) and indirect training costs (e.g. time spent by other workaholics talking to the workaholic employee, during which they fail to perform their duties). According to this method, like in the case of loyalty, the higher the incurred costs, the higher the value of human capital (the obvious flaw here is the assumption that costs reflect value).

3.2. The discounted revenue streams

This method, devised thirty years ago by Flamholtz (1975a), is being revived these days and it is used in human resources in a number of novel applications. It is strictly connected with the loyalty of employees whose value is determined by loyalty itself and revenues they generate on various positions they hold in an organization. According to this method, even those employees who are loyal with no organizational commitment are valuable provided their work performance is “average” and they are willing to be promoted. The employees who represent conditional loyalty are also valuable if their promotion is a precondition for staying in the company.

The method shows that human capital value increases due to efficient retention practices (e.g. better fulfilment of employees’ needs, such as authority, group identity or achievement) or a faster career path (when the probability of leaving the company is smaller than the values in Table 2 for u, w, p, s, v when other conditions are stable).

Table 2. Employee evaluation changes according to discounted cash flow method – example

Initial data			
Employment date S			01.01.2009 r.
Position 31.12. 2012			X
Average employment period of the S employee in the M company:			7 yrs
Forecast career path of the S employee			
Year	Possible positions	Probability of taking up the position by S (%)	Probability of leaving the company by S before the end of year (%)
2013	I	l	u
2013	II	0	u
2013	III	0	u
2014	I	b	w
2014	II	c	w
2014	III	0	w
2015	I	k	p
2015	II	e	p
2015	III	f	p
2016	I	g	s
2016	II	h	s
2016	III	i	s
2017	I	j	v
2017	II	d	v
2017	III	z	v

table 2 cont.

Annual positive cash flow for the position		
I		A euro
II		B euro
III		C euro
Discount rate		m%
Currents incurred costs		
Specifications	Expected value (in money units)	Discounted value (in money units)
Annual positive cash flow for the S employee in 2013	$(100\%-u\%) * 100\% * A$	$(100\%-u\%) * 100\% * A$
Annual cash flow for for the S employee in 2014	$(100\%-w\%) * (b * A + c * B)$	$[(100\%-w\%) * (b * A + c * B) + (1 + m: 100)]$
Annual cash flow for for the S employee in 2015	$(100\%-p\%) * (k * A + e * B) f * C$	$[(100\%-p\%) * (k * A + e * B) f * C] : (1 + m: 100)^2$
Annual cash flow for for the S employee in 2016	$(100\%-s\%) * (g * A + h * B + i * C)$	$[(100\%-s\%) * (g * A + h * B + i * C)] : (1 + m: 100)^3$
Annual cash flow for for the S employee in 2017	$(100\%-v\%) * (j * A + d * B + z * C)$	$[(100\%-v\%) * (j * A + d * B + z * C)] : (1 + m: 100)^4$
Total	Total of the above: D	Total of the above: W
The value of for the S employee on 31.12.2012. W		

Source: Own algebraic generalization based on the accounting example in: Bochniarz, Gugala (2005).

Reallocation to higher positions with potentially higher revenue may meet the expectations of some workaholics (e.g. workaholics with impaired focus), whereas some of them might not be satisfied (e.g. compulsive-addicted workaholics or those savouring work). The discounted revenue streams method does not differentiate among revenues brought by different employees following the same career paths. It is assumed that the revenues are the same regardless of the position. So, this method can distort the evaluation of those employees who are workaholics and whose revenue will be higher in the short run, but in the long run it will be lower than the assumed average (due to the above-mentioned somatic, mental and social effects of workaholism).

2.3. Mayo Monitor

This method uses the so-called individual asset multiplier including aptitude, potential, contribution to value and employee's values compatibility with company's values. If loyalty is a value (as in some examples of corporate culture, such as culture of power and role model (Harrison and Handy); process culture (Deal and Kennedy); hierarchy culture (Cameron and Quinn); productive culture (Snyder); harmony culture (Peters); communal culture (Goffee); Eiffel Tower culture (Trompenaars and Woolliams), and the employee represents the most desired types of loyalty, this kind of compatibility is scored the highest (2.0 according to the assumptions of the method). Theoretically, a type of loyalty affects the generated value. The type itself can be treated as a variable referring to aptitude profile. Its changing character can be interpreted in terms of potential (for example, from conditional loyalty to loyalty of convenience, from lenient loyalty to commitment loyalty, from helpless coercion loyalty to loyalty out of habit or from conscious loyalty to partnership loyalty). The above implies that loyalty can be subjected to evaluation with the aid of Mayo Monitor.

Can workaholism be subjected to such evaluation? Certainly, a type of workaholism and its intensity (the level of its development) belong in the group of variables describing aptitude profile, that is one of the variables in Mayo Monitor. However, only in some types of corporate culture (e.g. in "aggressive" culture, Krawiec, 2010, p. 47), workaholism is considered a value. According to the assumptions of Mayo Monitor, this type of compatibility should be evaluated higher than incompatibility. As far as contribution to creating a value is concerned, it can be insignificant in the case of a relentless workaholic (because of rigidity while doing a job), bulimic workaholic (working unsystematically), savouring workaholic ("immersed" in details and failing to meet deadlines) or narcissistic controller (unable to work in a team). The issue concerning the factors which determine the possibility of transition between workaholic types is interesting. It seems that apart from personality qualities, there are other vital factors, such as the nature of tasks (among other things, the level of their complexity), the employee's motivation and preferences (interests, coercion/satisfaction level), employer's requirements (high performance, time pressure), a stage in the employee's personal life (age) and career life (career path planning and its progress), and self-awareness (insight into a problem) as well as making the effort to tackle problems connected with workaholism (family pressure and support, professional therapy).

2.4. The risk value method

The method was devised a few years ago (Lipka, 2007) and it is constantly being improved. It is assumed that according to a selected analytical and point method of job evaluation, every employee should get a task/position of the highest point value which he is able to successfully perform (or meet given job requirements), having all the necessary skills (aptitude profile). This point value can be exchanged into money units (it is established how much one point is worth). However, this is not the whole procedure because it is thought that there might be specific types of personnel risk when an employee is not able to successfully perform the task even though they have the necessary skills and expertise. In other words, the risk destroys, i.e. reduces human capital value measured by the possibility of successful task completion at a specific difficulty level (criteria such as physical exertion, routine or working conditions, which are not related to job complexity, responsibility or team work, should not be taken into consideration when assessing the difficulty of the task). It seems that devising risk maps for both loyalty and workaholism is feasible (cf. Table 3) as well as determining its level (separately for loyalty and workaholism), for example with the aid of Martin and Heaulme's equation (1998):

$$r = \frac{\sum_{i=1}^i \sum_{j=1}^j r_{ij} n_{ij}}{\sum_{i=1}^i \sum_{j=1}^j n_{ij}},$$

where:

r_{ij} – risk value,

n_{ij} – number of personal risk types in the field with a given value

and a matrix where there is a risk level for specific probabilities relating to the occurrence and the volume of effects (in Table 3 loyalty risk is 3.66, and for workaholism risk is 8.80, which means that the risk is high only in the case of workaholism as it exceeds 5.0).

Table 3. Example map of loyalty and workaholism risks

Type of risk related to loyalty (L) and workaholism (W)	Probability of occurrence	Level of effects	Risk value
Quality of methods for diagnosing loyalty types in an organisation (L)	medium	medium	4.0
Quality of methods for diagnosing workaholic types in an organisation (W)	medium	medium	4.0
Work efficiency level for workaholics (W)	very high	high	8.0
Selection appropriateness of Employee Relationship Management strategy (ERM) (L)	high	high	7.0
Communication skills in team work (W)	very high	high	8.0
Quality of method selection for preventing workaholism (W)	medium	extreme	7.0
Quality of method selection for workaholism intervention (P)	medium	extreme	7.0
Employee loyalty scheme profitability (L)	very low	medium	1.5
Level of loyalty intensity (L)	medium	low	1.8
Loyalty types dynamics (L)	low	high	4.0

So, employee value based on analytical and point job evaluation would be corrected according to risk value. The risk value method includes both loyalty and workaholism, which means it is an all-purpose method.

2.5. The Balanced Scorecard

Indicator methods measure the level of goal achievement in specific perspectives. For example, HR Scorecard (Becker, Huselid, Ulrich) provides information concerning human capital in terms of basic human resources management tools: recruiting, rewarding, development, retention. This evaluation method comprises both loyalty and workaholism (cf. Table 4).

Table 4. HR Scorecard comprising selected aspects of loyalty and workaholism

Evaluated aspect \ Process	Recruiting	Rewarding	Development	Retention
	1	2	3	4
Cost	Cost of shaping working environment fostering new employees' loyalty (L) / Cost of hiring specialists identifying workaholics during recruitment (W)	Benefit costs (for loyalty) (L) / Costs of rewarding soft skills' (c.f. 2.6) (W)	Costs of employee training in the most desired type of loyalty (L) / Cost of intervention to change a workaholic (W)	Cost of employee retention(L) / Cost of investment in work-life programmes (W)

table 4 cont.

1	2	3	4	5
Time	Time for acquiring loyal (L) / non-workaholic (W) employees	Motivation scheme period to improve loyalty (L) / reduce workaholism (W)	Period of time for loyalty stages (L) / workaholism stages (W)	Time implementation of employee loyalty scheme (L) / work-life programme (W)
Quantity	Number of rejected job-hoppers in recruitment process (L) / Number of identified workaholics in the process (W)	Number of employees included in compensation system improving loyalty (L) / reducing workaholism (W)	Number of managers included in loyalty coaching programmes (L) / workaholism prevention (W)	Number of employees included in employee loyalty scheme (L) / cognitive therapy to prevent workaholism (W)
Quality	Quality of recruiting loyal employees (L) / non-workaholics (W)	Quality of rewarding loyalty (L) / intervention to prevent workaholism (W)	Differences in retention investments (L) / antiworkaholism (W)	Quality evaluation of employee loyalty scheme quality (L) / Quality evaluation of behavioral therapy for workaholics (W)
Feedback	Managers' satisfaction from acquiring loyal employees (L) / non-workaholics (W)	Employees' satisfaction from rewarding their loyalty (L) / from rewarding anti-workaholism (W)	Increasing percentage of employees highly assessing loyalty training courses (L) / anti-workaholism courses (P)	Retaining employees' trust included in loyalty schemes (L) / unchanging percentage of workaholic employees suffering from the withdrawal symptoms while at leisure (P)

Source: Our own additions to HR Scorecard shown in: Fitz-Enz (2001, p. 115).

The method can be used to compare value changes of indicators, yet it does not provide a result relating to human capital value determination.

2.6. Saarbrücken formula

The following parameters are taken into account in the formula:

- number of full-time employees,
- market remuneration rate,
- loss of expertise (determined by the ratio of the industry-determined period of expertise validity and years of service in an organisation),
- expertise compensation measured by the costs of investment in knowledge development,
- motivation.

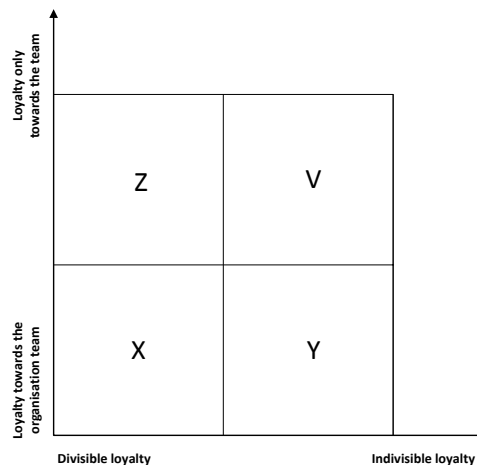
Loyalty (in the meaning of attitude) is closely connected with motivation. Employees' job resignations have an impact on the workforce volume, yet only up to a point as the latter depends on the number of the newly recruited employees. Loyalty measured by the years of service in the organisation results in loss of knowledge (thus, there is a different aspect of the connection between loyalty and expertise than the one indicated at the beginning). The remaining parameters do not seem to have any connection with loyalty.

Workaholism, in turn, is connected only with motivation. Therefore, the formula encompasses more parameters related to loyalty than workaholism. Most certainly the formula does not measure the loss of human capital value caused by workaholism and/or indicate that the value is maintained due to its efficient prevention (e.g. replacement of traditional motivation systems sanctioning workaholism with "soft" criteria-orientated systems, such as customer satisfaction – Poppelreuter, 2007, p. 179).

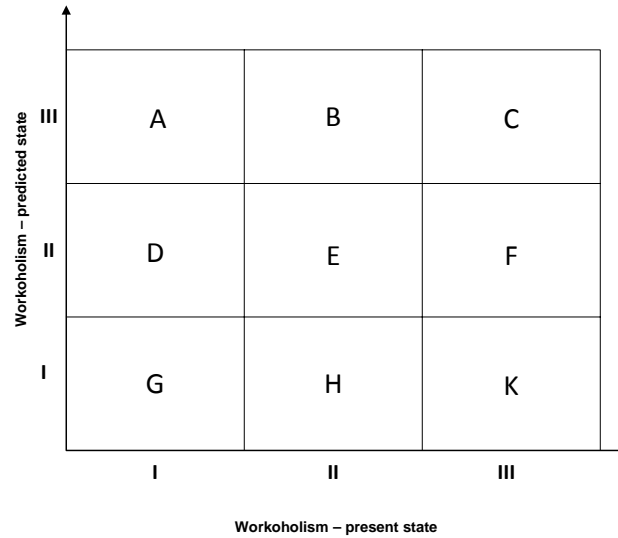
2.7. Personnel portfolio

Personnel portfolio, as opposed to the methods analysed so far, was drawn up with strategic human resources management in mind, however it may also be used for human capital evaluation. By means of the portfolio, it is possible to estimate (unfortunately only approximately, which is a drawback of the method) the share of individual employee segments, e.g. representing particular loyalty intensity (which is gradable) or the degree of workaholism (cf. Figure 1 and 2) among the employees in an organization.

Figure 1. Personnel portfolio of loyalty intensity



Explanation: the most positive influence on building the value of human capital is depicted by square V.

Figure 2. Personnel portfolio of workaholism degree

Explanations:

Degree I – low.

Degree II – medium.

Degree III – high.

Interpretation:

A, D – unfavorable (from the point of view of human capital) workaholism development leading to the decrease in human capital value (with *ceteris paribus*),

B, E, G – stopping the unfavorable dynamics of workaholism – without influence on the dynamics of human capital value (with *ceteris paribus*),

C – the highest and constant workaholism having negative influence on human capital value

F, H, K – achieving the effect of a converted workaholic – influence on the increase of human capital value (with *ceteris paribus*).

The method enables grasping the dynamics of different loyalty types or workaholics. Thus, it indicates their rising or falling share in individual segments of intra-organizational labor market. Distinguishing these segments may be helpful in optimizing the process of increasing human capital value. The following categories may be distinguished during the process of increasing the value in connection with shaping loyalty within the ERM (Employee Relationship Management) strategy:

I. *Most Valuable Employees*,

II. *Most Growable Employees*,

III. *Below Zero Employees*,

due to the fact that “not all internal clients will be satisfied with the same products and personal services” (Stotz, 2007, p. 32). In personal marketing particular attention needs

to be paid to the first of the segments – which is a value generator. Otherwise (even in a situation of a surplus of labour supply over labour demand, because it concerns persons who do not have problems finding a new job), the likelihood of job resignations will grow higher and an increase in human capital value will not take place.

In the case of workaholism, transitions are also possible, e.g. from a committed workaholic to a workaholic who limits their commitment to work, which may be depicted by means of a portfolio. The size of segments used for indicating changes in the share of particular types of workaholics may be determined via such methods as Work-BAT scale by Spence and Robbins, WART by Robinson and Philips, SZAP by Golińska, KOP Hornowska and Paluchowski or UWES by Schaufeli and Bakker (Szpitalak 2012, pp. 73-79; Golińska, 2008, pp. 54-67).

It must be emphasized that these segments may be determined in a quantitative aspect (percentages of employees who belong to them), which opens up the possibility of comparisons and evaluations – even monetary ones.

Conclusions

Critical analysis and evaluation of reference books showed that human capital evaluation methods vary with respect to the possibility of including value generators connected with loyalty and devaluators connected with workaholism. In the seven selected evaluation methods, basing on the following groups: cost, revenue, multiplier, indicator, mixed and alternative, it was identified to what degree the determinants of human capital value such as loyalty and workaholism were taken into account and the suitability of the methods was evaluated (cf. Table 5).

Table 5. Selected methods of human capital evaluation of/ in an organization and an inclusion of loyalty and workaholism in them

Name of the method	Loyalty		Workaholism	
	Degree/taken into account	Evaluation of suitability	Degree/taken into account	Evaluation of suitability
1	2	3	4	5
historical costs method (R.L. Brummet, E.G. Flamholtz, C.P. Pyle)	yes, indirectly	low	yes, indirectly	low
discounted revenue streams method (E.G. Flamholtz)	yes, directly	medium	yes, indirectly	medium

table 5 cont.

1	2	3	4	5
Mayo monitor, (A. Mayo)	yes, indirectly	high	yes, indirectly	high
risk value method (A. Lipka)	yes, directly (when the map of personnel risk includes loyalty)	high	yes, directly (when the map of personnel risk includes workaholism)	high
HR Balanced Scorecard (B.B. Becker, M.A. Huselid, D. Ulrich)	yes, directly (when it includes indicators concerning employee loyalty)	medium	yes, directly (when it includes the indicator of workaholics)	medium
Saarbrücken formula (Ch. Scholz, V. Stein, R. Bechtel)	yes, directly in selected parameters	medium	yes, directly in one parameter	low
personnel portfolio (G.S. Odiome)	yes, directly (when it includes the degree of employee loyalty)	high	yes, directly (when it includes the degree of employees' workaholism)	high

Evaluation basis**The degree to which the determinant was considered:**

- a) directly (the selected determinant is included in the formula, there is connection with loyalty or workaholism,
- b) indirectly (the selected determinant is not included in the formula; specification is required in relations to the selected component of evaluation; there is lack of close connection with loyalty or workaholism).

Suitability evaluation:

- low (due to false methodological assumptions; there is lack of formula measuring the increase in or loss of human capital value),
- medium (distortion of the evaluation due to lack of diversification between revenues brought by a variety of loyal/ workaholic employee types; difficulty in delivering the result in the form of specified human capital value),
- high (easiness in determining human capital value).

Table 5 shows that loyalty is included directly in as many as five analysed methods and workaholism in four of them. Most of the methods takes into account both loyalty and workaholism, thus indicating their universal nature. However, the suitability for including particular generators and devaluators of human capital varies to a large extent. The least suitable method turned out to be the historical costs method whereas the highest suitability value was awarded to the monitor Mayo method, risk value method and personnel portfolio method. The remaining methods present a medium level of suitability for the determination of human capital value taking into account loyalty/workaholism.

As part of further research on these issues different typologies of workaholism and loyalty could be taken into account. The hypothesis formulated and verified in the article could be tested by being applied to other generators and devaluators of human capital, such as different aspects of attitudes towards working time.

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