DIGITALIZING PREDICTIVE MAINTENANCE TO IMPROVE ASSET MANAGEMENT: ARE WE READY?

[1]DAMJAN MALETIČ, NUNO MARQUES DE ALMEIDA, DRAGAN KOMLJENOVIC, VIKTOR LOVRENČIĆ & MATJAŽ MALETIČ

[1]University of Maribor, Faculty of Organizational Sciences, Kranj, Slovenia, e-mail: damjan.maletic@um.si.

Abstract The purpose of this paper is to explore the readiness of selected Slovenian companies to assimilate the complexities of Industry 4.0 requirements into their asset management practice, namely for the particular case of the predictive maintenance function. The survey was conducted to capture the extent to which companies address new technologies as well as to identify the current and future orientation towards their adoption in predictive maintenance activities. The results suggest that companies are aware of the benefits that can be attained with Industry 4.0 solutions. However, they still lack of clear vison and an implementation roadmap such solutions. Moreover, the majority of the companies in the sample are still in the early stages of predictive maintenance strategy maturity. Taking a wider perspective one can highlight the need to adopt organization-wide asset management approach to be able to effectively manage the transition towards digitalization by means of creating higher value for the organization.

Keywords: asset management, predictive maintenance, digitalization, maturity assessment, Industry 4.0.

University of Maribor Press

DOI https://doi.org/10.18690/978-961-286-388-3.34
ISBN 978-961-286-388-3

1 Introduction

The contemporary global marketplace has been putting enormous pressures on the manufacturing organizations to continuously adapt proactive, innovative strategies for enhancing their manufacturing capabilities (Ahuja and Khamba, 2008). While asset availability and reliability become critical issues in capital-intensive operations, the strategic importance of maintenance in such businesses should be recognized (Tsang, 2002). When faced with the challenges of changing business models and increased cost pressures, companies must remain focused on balancing costs, risks, and achieving the desired performance (ISO 55001: 2014). With the support of maintenance management, which is a very important part of the Asset Management (AM), companies should exploit their full potential and effectively reach their business goals. An Asset Management System (AMS) based on the ISO 55000 family of standards helps an organization to establish a coherent approach and coordinated delivery of appropriate resources and activities. As such, the effective management of assets consequently plays an increasingly important role in optimising business profitability (Maletič et al., 2019; Schuman and Brent, 2005).

Technological innovation is opening the door to a whole new world of AM. Internet of Things (IoT) as a key enabler for the Industry 4.0 as well as big data and analytics, cloud computing, mobile network, virtual reality, digital twins, building information modeling (BIM), real-time monitoring of physical assets are some of the trends currently entering the AM world. The digital era is presenting new challenges to organisations and is enabled through the communication between people, machines, and resources (Kagermann, 2015). In this context, there are also new emergent and systemic risks that should be taken into consideration (Brocal et al., 2019). AM is no exception. It is well recognized in the literature (Hodkiewicz 2015; Maletič et al., 2019; Trindade et al. 2019; Komljenovic et al., 2019) that AM is about aligning design, procurement, operations and maintenance to deliver value through effective asset utilization. However, we are now facing a new challenge: how to effectively use the huge amounts of data that is generated every day, every minute and every second? Digital transformation in AM should therefore ensure that the right business information and operational technology data is available at the right time, throughout the system and throughout entire asset life. In this regard, Trindade and Almeida (2018) highlighted the importance of digitalisation as a contributor to value realization from assets in asset-intensive organizations.

Now, with the Industry 4.0, new maintenance paradigm, innovative methods, tools and systems have to be developed to fulfil the new demands of Industry 4.0 (Al-Najjar et al., 2018). It is proven by many researches that maintenance plays an important role in enhancing company's performance (e.g. Al-Najjar, 2007; Maletič et al., 2014). Although, life cycle costs (LCCs) are mostly affected during the design phase (Schuman and Brent, 2005), maintenance is considered as a vital element to correspond to current trend of automation and data exchange in industrial technologies and to ensure to ensure that assets deliver value for organization. As such, maintenance should be recognized as a value driver by means of supporting AM in achieving company goals (Kans and Galar, 2017).

Industry 4.0 is a relatively new technology and therefore a research is in the area is still rather evolving, especially regarding the maintenance and AM (Al-Najjar et al., 2018; Kans and Galar, 2017; Kumar, and Galar, 2018). As such, this study aims to examine and explore the companies' technology readiness for Industry 4.0 with emphasis on predictive maintenance in the context of Industry 4.0.

2 Methodology

2.1 Sample and data collection

The questionnaire with the cover letter indicating the purpose and significance of the study was emailed to target respondents. Maintenance and operations managers were chosen because they were considered to be familiar with the implementation of asset and maintenance management practices. This study utilized a mail survey of a sample of Slovenian organizations, encompassing various sectors. In total, 350 surveys were mailed out, and 71 responses were received (response rate 20.3 %). The companies were classified based on Slovenian Standard Industrial Classification Codes (SIC). According to the results, the majority of responses to the survey were from the manufacturing industry (52 %). The reminder portion of companies corresponds to electricity, gas, steam, and air conditioning supply, wholesale and retail trade, repair of motor vehicles and motorcycles, transportation and storage and other type of industries. Regarding the number of employees (following the guidelines of the Statistical Office of the Republic of Slovenia), the greatest proportion of organizations that responded were medium-sized organizations (51–

250 employees) (approximately 35 %), while the smallest portion corresponds to organizations employing 251–500 employees (approximately 7 %).

2.2 Measures

Several topics (related to AM and digitalization) were conceptualized to formulate questionnaire, each measured by using five-point Likert scales (1 = "strongly disagree", 5 = "strongly agree") or categorical-level type of questions. The measures for this study were derived and adopted from Haarman, Mulders and Vassiliadis (2017) and Wee et al. (2016).

3 Results and discussion

The following section provides results regarding the perceived level of industry 4.0, estimation of the maturity level of predictive maintenance (PdM) as well as review of supporting tools for predictive maintenance.

Results regarding the perceived features of Industry 4.0 are presented in Figure 1. As indicated by the results, digitalization prevails (48 %) as a perceived building block of industry 4.0 concept. Other aspects of industry 4.0 were selected and outlined in smaller portions; i.e. new IT technology (19 %), smart factory (16 %), and cyber-physical systems (10 %).

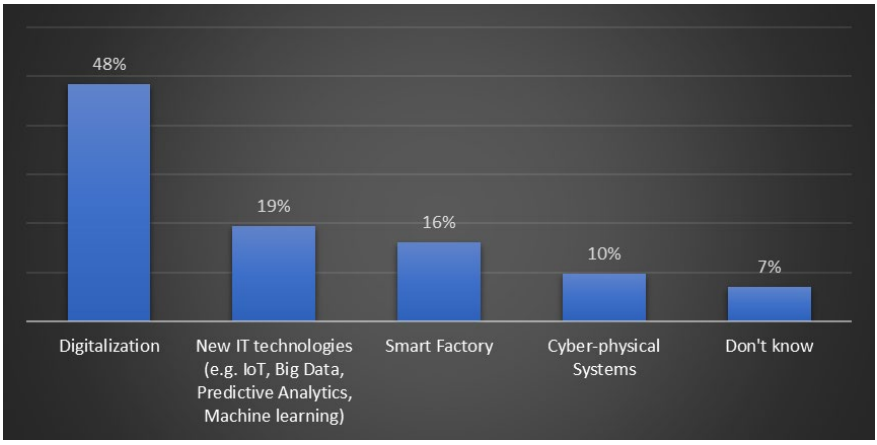


Figure 1: Key features of industry 4.0

Taking a closer look at our results (Table 1) it can be argued that sample companies face the lack of Industry 4.0 technology readiness level (M = 2.9). Intriguingly, companies recognize the potential and opportunity (M = 3.8) of Industry 4.0 and its impact on their business (M = 3.5).

Table 1: Descriptive statistics for Industry 4.0 readiness

	Mean	**SD***
Do you consider your company well prepared for Industry 4.0?	2.92	0.76
Industry 4.0 is an opportunity rather than a risk	3.81	0.74
Do you expect Industry 4.0 to impact your company's business model?	3.53	0.97
**Standard deviation*		

It is undoubtedly that Industry 4.0 needs to be led from the top, with a strong clear vision (Amrita and Akhilesh, 2020). One can argue that companies need to put their effort on the development of Industry 4.0 roadmap, with a clear and truthful assessment of both the current situation and the Industry 4.0 transformation objectives. As shown by the results (Table 2), on average companies don't have a clear strategy for Industry 4.0 adoption (M = 2.73), neither do have a straightforward roadmap (M = 2.64).

Table 2: Strategic orientation towards Industry 4.0

	Mean	**SD***
We have an overall Industry 4.0 strategy in place	2.73	0.90
We have assigned clear responsibilities for implementing Industry 4.0	2.58	0.92
We have a clear road map for implementing Industry 4.0	2.64	0.94
**Standard deviation*		

In terms of PdM readiness, there are some causes for concern, mixed with some positive future perspectives. It is encouraging that 34 % of companies are either working on PdM or have clear strategic plan about implementation of PdM in near future – although there is a significant and concerning 48 % who disagree or have no future plans for implementing PdM (Figure 2).

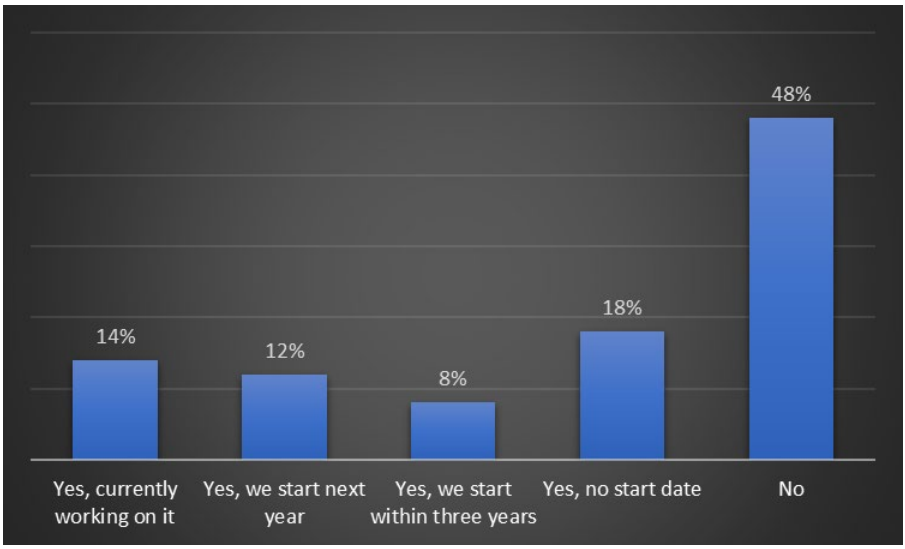


Figure 2: Organization's plan to embed predictive maintenance

Furthermore, we found that more than three-fourths of survey respondents are still at maturity levels one or two (Figure 3). As expected, there are not a lot of companies that consider their self as front-runners in the predictive maintenance maturity race. Only 4 % have already achieved level four. We can divide sample companies into four distinct categories. Each category is characterized by a different organizational stage and activity level according to the maturity scale (Haarman, Mulders and Vassiliadis, 2017):

Level 1 Visual inspections: periodic physical inspections; conclusions are based solely on inspector's expertise.

Level 2 Instrument inspections: periodic inspections; conclusions are based on a combination of inspector's expertise and instrument read-outs.

Level 3 Real-time condition monitoring: continuous real-time monitoring of assets, with alerts given based on pre-established rules or critical levels.

Level 4 Predictive maintenance with Big Data Analytics: continuous real-time monitoring of assets, with alerts sent based on predictive techniques, such as regression analysis.

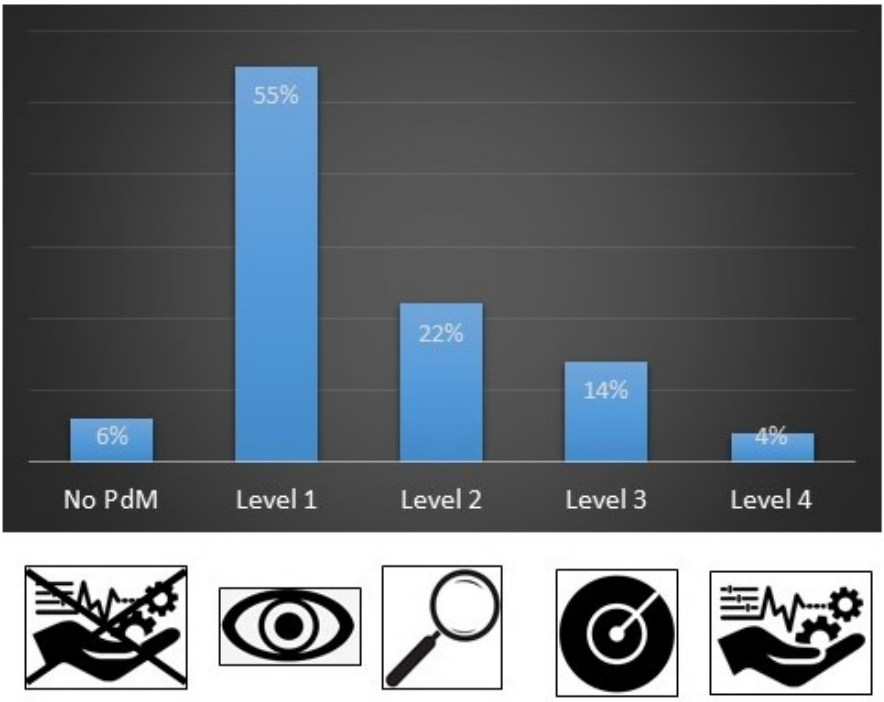


Figure 3: Estimation of predictive maintenance level maturity

Most sample companies only have a limited number of supported tools available (Figure 4). The majority of companies have basic tools in place (e.g. office tools). Just a little below one third of companies are using condition monitoring software tools, followed by data warehouse (16 %), statistical tools (14 %), cloud software tools (14 %) etc.

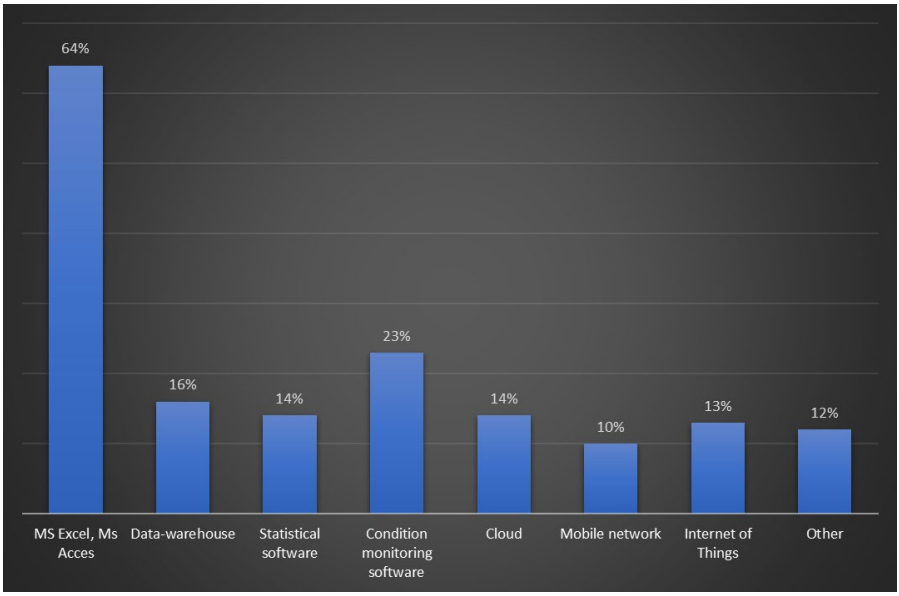


Figure 4: Overview of predictive maintenance supporting tools (hardware and software)

4 Concluding remarks

This paper addresses digitalization and predictive maintenance challenges that companies need to cope with in competitive business environment. The progress in digital transformation raises new challenges for the organization, since Industry 4.0 significantly change products and production systems concerning the design, processes, operations, services and quality (Ślusarczyk, 2018; Markulik et al., 2019; Brocal et al., 2019).

This paper intends to outline the reediness of Slovenian companies to adopt predictive technologies to improve asset related decision-making, especially by taking into account value creation and the shift that should be done towards digitalization. It is widely recognized that predictive maintenance could be considered as AM enabler merely through acquisition and analysis of data. As such, digital technologies will facilitate the development of maintenance practices by shifting asset maintenance to a certain extent from traditional preventive to predictive, based on analysis of digital data. However, despite the fact that Industry

4.0 brings numerous advantages, it must contend with emerging risks and challenges associated with organizational and human factors.

According to the results it can be concluded that sample companies recognize the benefits of Industry 4.0. However, the weaknesses are reflected in lack of clear strategy concerning both Industry 4.0 and predictive maintenance. Consequently, the majority of sample companies are quite far from highest predictive maintenance maturity level. As a response to research question of this paper, one can argue that transition towards digitalization is still emerging. Although, the aim of this paper was not to examine the relationship between predictive maintenance and performance benefits, it can be emphasised that current exploitation of new technologies is not sufficient enough to fully gain asset related benefits.

References

Ahuja, I. P. S., & Khamba, J. S. (2008). An evaluation of TPM initiatives in Indian industry for enhanced manufacturing performance. International Journal of Quality & Reliability Management. Vol. 25 No. 2, pp. 147-172.

Al-Najjar, B. (2007). The lack of maintenance and not maintenance which costs: A model to describe and quantify the impact of vibration-based maintenance on company's business. International Journal of Production Economics, 107(1), 260-273.

Al-Najjar, B., Algabroun, H., & Jonsson, M. (2018). Maintenance 4.0 to fulfil the demands of Industry 4.0 and Factory of the Future. International Journal of Engineering Research and Applications, 8(11), 20-31.

Amrita, M. A., & Akhilesh, K. B. (2020). Digital Masters: Blueprinting Digital Transformation. In Smart Technologies (pp. 97-110). Springer, Singapore.

Brocal, F., González-Gaya, C., Komljenovic, D., Katina, P.D., Sebastián, M.A. (2019). Emerging risk management in Industry 4.0: an approach to improve organizational and human performance in the complex systems, Complexity, Vol. 2019, Article ID 2089763, https://doi.org/10.1155/2019/2089763

Haarman, M., Mulders, M., & Vassiliadis, C. (2017). Predictive Maintenance 4.0-Predict the unpredictable. PwC and Mainnovation.

Hodkiewicz, M. (2015). Asset management-quo vadis (where are you going)?. International Journal of Strategic Engineering Asset Management, 2(4), 313-327.

Kagermann, H. (2015). Change through digitization—Value creation in the age of Industry 4.0. In Management of permanent change (pp. 23-45). Springer Gabler, Wiesbaden.

Kans, M., & Galar, D. (2017). The impact of maintenance 4.0 and big data analytics within strategic asset management. In Maintenance Performance and Measurement and Management 2016 (MPMM 2016). November 28, Luleå, Sweden (pp. 96-104). Luleå tekniska universitet.

Komljenovic, D., Abdul-Nour, G., & Boudreau, J. F. (2019). Decision-making in asset management under regulatory constraints. In Asset Intelligence through Integration

and Interoperability and Contemporary Vibration Engineering Technologies (pp. 323-332). Springer, Cham.

Kumar, U., & Galar, D. (2018). Maintenance in the era of industry 4.0: issues and challenges. In Quality, IT and Business Operations (pp. 231-250). Springer, Singapore.

Maletič, D., Maletič, M., Al-Najjar, B., & Gomišček, B. (2018). Development of a model linking physical asset management to sustainability performance: An empirical research. Sustainability, 10(12), 4759.

Maletic, D., Maletic, M., Al-Najjar, B., & Gomiščeк, B. (2014). The role of maintenance in improving company's competitiveness and profitability: a case study in a textile company. Journal of Manufacturing Technology Management, 25(4), 441-456.

Markulik, Š., Sinay, J., & Pačaiová, H. (2019). Quality Assurance in the Automotive Industry and Industry 4.0. In Smart Technology Trends in Industrial and Business Management (pp. 217-225). Springer, Cham.

Schuman, C. A., & Brent, A. C. (2005). Asset life cycle management: towards improving physical asset performance in the process industry. International Journal of Operations & Production Management.

Ślusarczyk, B. (2018). Industry 4.0: Are we ready?. Polish Journal of Management Studies, 17.

Trindade, M., & Almeida, N. (2018). The impact of digitalisation in asset-intensive organisations. Network Industries Quarterly, 20(4).

Trindade, M., Almeida, N., Finger, M., & Ferreira, D. (2019). Design and Development of a Value-Based Decision Making Process for Asset Intensive Organizations. In Asset Intelligence through Integration and Interoperability and Contemporary Vibration Engineering Technologies (pp. 605-623). Springer, Cham.

Tsang, A. H. (2002). Strategic dimensions of maintenance management. Journal of Quality in Maintenance Engineering, 8(1), 7-39.

Wee, D., Breunig, M., Kelly, R., & Mathis, R. Industry 4.0 after the initial hype-Where manufacturers are finding value and how they can best capture it, McKinsey Digital (2016).

SAMOZAVEDANJE PRI ZAVESTNEM VODENJU

DEJAN MARINČIČ IN MIHA MARIČ

Univerza v Mariboru, Fakulteta za organizacijske vede, Kranj, Slovenija, e-pošta: dejkom@gmail.si, miha.maric@um.si.

Povzetek Zavestno vodenje je poseben stil vodenja. Pri tem stilu vodenja se mora vodja v najčistejši obliki najprej zavedati sebe »svojega jaza«, šele nato lahko zavestno vodi. Vključiti mora popolno samozavedanje in ostati mora pristen. Zavestni vodja se ne osredotoča samo na sebe, vendar na organizacijo kot celoto. Njegova vizija mora segati daleč v prihodnost. Ko vodja na ta način začne pristopati k stvarem, ustvari zanesljivo in trdno zaupanje svojih sledilcev, ter pridobi razširjen vpliv. To visoko stopnjo zavesti in samozavedanja lahko dosežemo s prakso. Z vidika vodenja je zavest več kot to, da se zavedamo vsakodnevnih izzivov. V članku smo se osredotočili na eno od dimenzij pri zavestnem vodenju, to je samozavedanje in jo razčlenili na štiri komponente, to so: identiteta; vrednote; čustva – čustvena inteligenca in cilj ali motiv.

Ključne besede: zavestno vodenje, identiteta, samozavedanje, vrednote, čustvena inteligenca.

Univerzitetna založba Univerze v Mariboru

DOI https://doi.org/10.18690/978-961-286-388-3.35
ISBN 978-961-286-388-3

1 Zavestno vodenje

Vodja skupine ljudi ali vodja organizacije mora najti učinkovit način vodenja, da bi bil lahko uspešen. Zavestno vodenje je ohranjanje ozaveščenosti misli, čustev in izkušenj za dosego nekega cilja. Zavestni vodja se mora zavedati svoje zavesti tudi v vsakdanjem življenju in mora na svoji zavesti tudi delati (Fyke in Buzzanell, 2013). Zavestni vodja mora imeti naslednje lastnosti: z različnih perspektiv mora videti problem, obenem mora ostati nevtralen; zbirati mora informacije in se učiti iz izkušenj; biti mora jasen v razpravah; sposoben mora biti prevzemati odgovornost; pošteno in odprto mora komunicirati; stremeti mora k pozitivnemu izidu (Ward, 2016).

Spretnosti, kot so meditacija, pravilno dihanje in poslušanje s srcem, vplivajo na posameznika, da širi svojo zavest. Vsakodnevno lahko z učenjem in opazovanjem v okolju širimo svojo zavest (Wheatley, 2017). Raziskati moramo, kaj so življenjske vrednote, spoznati moramo, kaj je naš življenjski cilj. Meditacija je močno orodje, ki krepi duha in odpira pot do razširjene zavesti. S takim umom se lahko bolje izrazijo kreativne ideje in rešitve. Vse zamisli, ki pridejo skozi um, je treba analizirati brez presojanja. Morda je na začetku potrebnega nekaj eksperimentiranja, da vsak posameznik najde svojo tehniko meditiranja, ki mu najbolj ustreza (Stone, 2014). Tudi zdravje in fizična vitalnost ter duševni in čustveni mir vplivajo na razširjeno zavest. V šestem stoletju pred našim štetjem je kitajski filozof Laozi govoril o pomembnosti opazovanja samega sebe. Teorija je temeljila na tem, da opazovalec v miru opazuje sebe, nadzoruje misli in čustva (Ward, 2016).

Hayden (2017) opisuje, da je model zavestnega vodenja sestavljen iz štirih ključnih elementov. Najprej se mora zavestni vodja močno samozavedati in biti mora samozadosten. Živeti mora zavestno življenje po svoji izbiri, zavedati se mora svojih in tujih vrednot ter jih vključevati v komunikacijo. Imeti mora sposobnost videti več perspektiv in se z njimi ne sme poistovetiti. Drugi pomemben člen modela je, da mora biti vodja z zavestjo pri stvari, ko vodi odnose. To ne pomeni samo fizične prisotnosti, ampak mora vodja velikodušno poslušati, pogumno govoriti in zavzemati stališča, na pravi način mora nadzirati, biti mora odgovoren do drugih ter ustvarjati priložnosti za sodelovanje (Springborg, 2010). Sistemski vpogled je tretji element v modelu zavestnega vodenja. To pomeni, da mora imeti vodja visoko razvito zavest do vseh udeležencev, kar vodi do močne sistemske inteligence in

težnje k razmišljanju in ustvarjanju koristi in ravnovesja v širšem sistemu, ter prevzemanje odgovornosti za dolgoročni učinek dejanj. Kolektivna odgovornost je četrti element v tem modelu in jo opredeljujemo kot notranji klic in občutek odgovornosti, ter nas vleče k ustvarjanju širšega dobrega in ima vedno pozitiven učinek (Hayden, 2016).

Spodnja slika prikazuje osem dimenzij zavestnega vodenja to so: samozavedanje; razširjena zavest; sistemski vpogled; vodja mora biti zavestno pri stvari; ključna dimenzija je tudi kolektivna zaves; pomembne so življenjske izkušnje, ki jih skozi leta in različne situacije pridobivamo; zaznavni filtri in življenjski kontekst. Vseh teh osem dimenzij sooblikuje zavestnega vodjo. Zavedamo se, da idealnega zavestnega vodje ni, mora pa imeti več ali manj izoblikovanih teh osem dimenzij.

Slika 1: Dimenzije zavestnega vodenja.
Vir: Lasten prikaz.

2 Samozavedanje

Kot je razvidno že iz Slike 1, je samozavedanje pomembna dimenzija zavestnega vodenja. Slika 2 pa nam prikazuje štiri komponente, ki sestavljajo samozavedanje. Prva komponenta samozavedanja so vrednote, druga komponenta je posameznikova identiteta, čustva so tretja komponenta, ki so zelo pomembna pri samozavedanju, kot četrta komponenta pa je cilj ali motiv, ki ga imamo in ga hočemo doseči (Avolio at al, 2005).

Slika 2: Komponente samozavedanja.
Vir: Lasten prikaz.

Zavestni vodja izhaja iz svojih vrednot pri odločanju glede ukrepov za dosego ciljev, ocenjevanja ljudi ter ob tem pojasnjuje njihova dejanja (Goleman, Boyatzis in McKee, 2002). Vrednote služijo zavestnemu vodji kot notranji kompas, so ponotranjene in integrirane v posamezniku, ter tako omogočijo vodjem, da določajo o pravih poteh zase in za svoje sledilce. Preko njih se zavestni vodje identificirajo s sledilci in jih lahko tako spodbujajo pri njihovem razvoju ter odpravljajo slabosti (Avolio at al, 2003).

Različni teoretiki pišejo o tem, da je samozavedanje temeljna dimenzija zavestnega vodenja, ki se lahko opredeljuje, prepoznava, ter razume tako kot prednost ali slabost vodje (Avolio at al, 2009). Samozavedanje se nanaša na posameznikovo razumevanje sveta in kako se skozi daljše časovno obdobje to razumevanje odraža na posamezniku. Gre za razumevanje posameznikovih prednosti in slabosti, ter večplastno naravo jaza, ki vključuje pogled vase, je proces kjer posameznik razume svoje talente, želje prepričanja, prednosti in temeljne vrednote, s čimer se zaveda svojega znanja in zmožnosti vplivanja na druge ljudi (Knippenberg, Cremer in Hogg, 2004). Posameznik se poglobi v lastno osebnost, na ta način se spomni pomembnih dogodkov v svojem življenju, kaj je takrat občutil in kako je reagiral, ter tako doseže stik s samim sabo (Salovey in Mayer, 1990).

Samozavedanje je v tesni korelaciji s samo refleksijo in poznavanjem lastne osebnosti. Zavestni vodje s pomočjo introspekcije spoznavajo čustva, motive oziroma cilje, vrednote in osebno identiteto, kar predstavlja in sestavlja samozavedanje. Pri zavestnih vodjih prepoznavamo samozavedanje v visoki stopnji samozavesti in zelo jasnem samoizražanju (Avolio at al, 2005).

K celovitemu pristopu sprejemanja odločitev vpliva tudi meditacija. Vsakodnevna vadba meditiranja spodbuja intelektualno pomoč posamezniku, da se iz trenutka v trenutek zave in črpa moči iz svojega prepričanja. Meditacija tako olajša vplive na vodjo in njegovo razpoloženje. To sposobnost, skupaj s sposobnostjo osredotočanja, samozavedanja, samoregulacije, prožnosti in pozornosti to lahko doseže vodja s prakso. Te sposobnosti pozitivno vplivajo tudi na organizacijsko klimo (Fry in Slocum, 2008).

Skrbnost je ena od glavnih funkcij zavesti in brez zavesti ali zaznavanja ni postopka vodenja. Skrbnost je disciplina duha, ki kaže atribute pozitivne psihologije. Koncentracija in preudarnost delujeta skupaj na nadzor pozornosti, pozornost pa je najučinkovitejši način dela na procesih razvijanja kreposti, zbranosti in preudarnosti. Medtem ko smo previdni, doživljamo tekoči trenutek čistega zavedanja in med tem smo čisto fokusirani. Te izkušnji pravimo premišljenost. Z meditacijo pa lahko razvijemo to mentalno disciplino, ki podaljša stanje zavedanja (Arch in Craske, 2006). Sethi (2009) je izjavil, da so možgani sposobni bistvenih notranjih sprememb in reakcije na spremembe ki so odvisne od tega, na kaj posameznik osredotoča pozornost. Arch in Crake (2006) predlagata, da z meditacijo vsak dan treniramo

osredotočenje uma od 15 do 20 minut. Tako se bodo »mentalne mišice« naučile osredotočati na splošno in s tem se bomo tudi bolje samozavedali.

V nadaljevanju se bomo osredotočili na vse štiri elemente, ki vplivajo na samozavedanje pri zavestnem vodenju, to so vrednote, identiteta, čustva in čustvena inteligenca in cilj ali motiv.

2.1 Identiteta pri zavestnem vodenju

Več teoretikov opisuje, da je bistvo vodenja vpliv na druge (Yukl, 1998). Le če vplivamo na druge, lahko opazujemo vodenje. Učinkovitost vodenja je kritična in je pogosto opredeljena v smislu sposobnosti vodje, da motivira sledilce k skupnemu cilju, misiji ali viziji (Chemers, 2001). Za razumevanje učinkovitega vodenja moramo tako razumeti učinke vodenja na sledilce. Z drugimi besedami, da bi razumeli vodje, moramo razviti teorije psiholoških procesov, ki vedenje vodje prevedejo v sledilce. V zadnjih letih opažamo vse več raziskav na temo identitete vodje.

Način, kako dojemamo sebe, samosvoj koncept ali identiteto, ima velik vpliv na način, kako se počutimo, razmišljamo in se obnašamo, ter na stvari, ki jih želimo doseči (Leary in Tangney, 2003). Če torej zavestni vodja lahko spremeni način kako ga sledilci dojamejo ima lahko zavestni vodja velike posledice na delovanje organizacije, delovne skupine in posameznika. Samozavedanje lahko opišemo tudi kot znanje, ki ga ima zavestni vodja o sebi. To znanje o sebi lahko zajema različno veliko področij, na primer znanje o kompetencah, ki jih zavestni vodja ima in nima, poznavanje svojih stališč in vrednot, ter poznavanje svojih dobrih in slabih lastnosti, ter tega kaj zavestni vodja kot človek želi postati (Goleman, Boyatzis in McKee, 2002). Samozavedanje je struktura znanj, ki zavestnim vodjem pomaga pri vodenju organizacije, poleg tega se razvija tudi boljša interakcija z drugimi in deluje kot regulator teh družbenih interakcij (Lord in Brown, 2004).

Identiteta v veliki meri izhaja iz naših izkušenj, kako reagiramo na vedenje drugih in kako drugi reagirajo na naše vedenje (Sedikides in Gregg, 2003). Poleg tega tudi socialne interakcije in družbene strukture sooblikujejo našo identiteto. Tako lahko družbeni kontekst privede do tega, da ljudje dojemajo sebe glede na svojo poklicno pripadnost, svojo vlogo v družini ali politično usmeritev. Pomembno je da identiteta ni dvodimenzionalna. Celotno osebnost je običajno predstavljena kot nabor

kategorij, od katerih vsaka predstavlja svojevrstno identiteto (Stets in Burke, 2003). Te različne identitete so običajno vezane na določen družbeni kontekst. Število identitet in specifična vsebina vsake od njih se razlikuje od osebe do osebe. (Goleman, Boyatzis in McKee, 2002).

Čeprav imajo vodje lahko veliko različnih identitet, je po navadi le ena od njih vidna ali aktivirana v kakršnem koli specifičnem kontekstu. Ta aktivnost je del samozavedanja (Lord in Brown, 2004). Markus in Nurius (1986) opisujeta, da imamo vrsto identitet. Te možne identitete so v prihodnost usmerjene sheme tega, za kar mislimo, da bi lahko postali (na boljše ali na slabše). V tem pogledu Higgins (1987) razlikuje med idealno identiteto (kakšni bi želeli biti) in lastno identiteto (kakšni v resnici smo).

2.2 Vrednote pri zavestnem vodenju

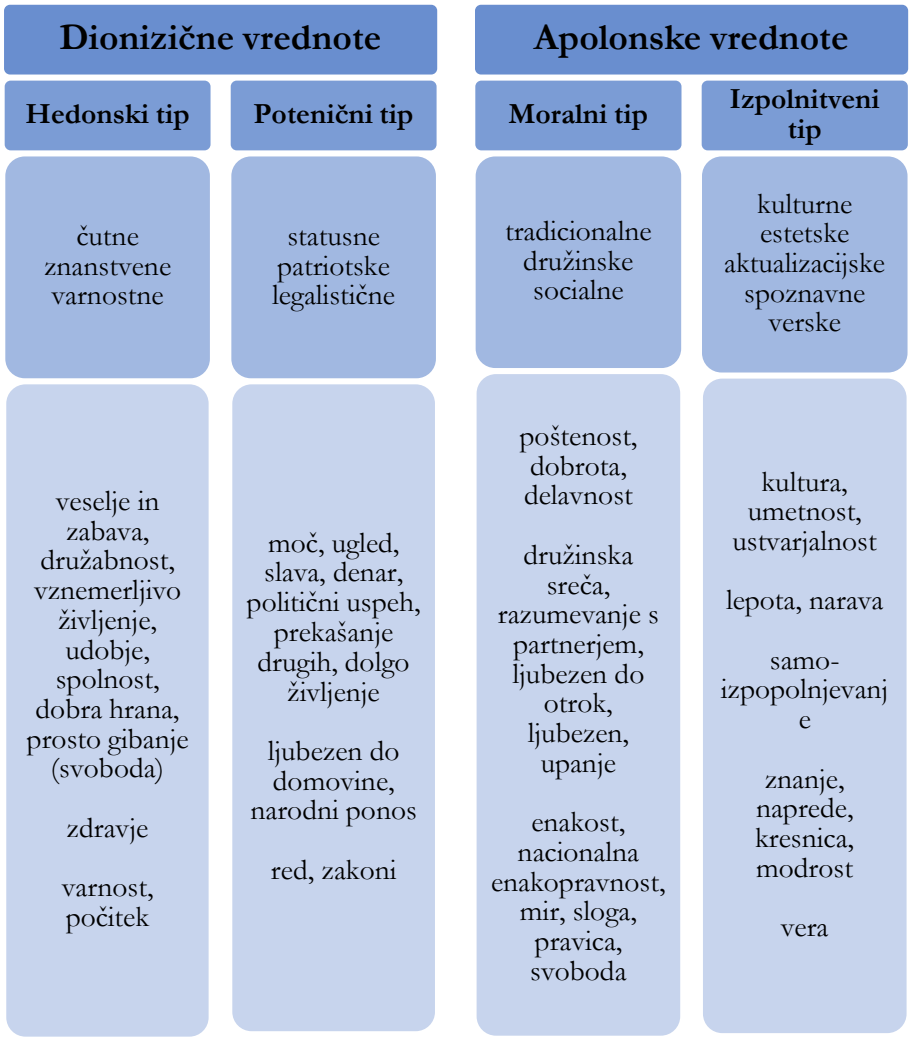
Vrednote so vrednostne kategorije, h katerim si zavestni vodja prizadeva in ki mu predstavljajo neke vrste cilj oziroma ideal. Za posameznika so vrednote ponotranjena merila, s katerim presoja svoje ravnanje. Povedo mu, kaj je prav in kaj narobe; kaj je dobro in kaj slabo. Omogočajo mu reagiranje različnih alternativnih delovanj. So notranja kontrola posamezniku, ki se jih pogosto ne zaveda, so zunaj njegove zavesti. Spremljanje vrednot je zato dolgotrajen proces, ki se ne zgodi takoj (Medja, 2008).

Moralno in etično osnovane vrednote zavesnih vodij in z njimi povezani načini vedenja so neposredno povezani z uspešnim vodenjem organizacije. Uspešen zavestni vodja se zaveda učinkov sinergije zato poizkuša hkrati močno vpeti svoje sledilce v odločitveni proces ali v iskane rešitev. V takšnih vrednostno pogojenih načinih vodenja, se dokazano ne zrcali le predpostavka za gospodarski učinek in podjetniški uspeh temveč tudi nekaj kar je verodostojna kultura organizacije, kot izraz organizacijsko-strukturne nadgradnje sobivanja in s tem sinergije v izvirnem pomenu (Medja, 2008).

Vrednote lahko posplošeno opredelimo, kot neko pojmovanje in prepričanje oziroma motive in interese vsakega posameznika (Zander, Jonsen in Mockaitis, 2016). Vrednote so tudi naše usmeritve in relativno trajno pojmovanje posameznikovih ciljev, katere le ta visoko ceni in spoštuje. Le-te narekujejo način

življenja oziroma ravnanja prav vsakega posameznika. Posameznikove vrednote se skozi celotno življenjsko obdobje razvijajo in tudi spreminjajo (Meglino in Ravlin, 1998).

Poznamo več različnih modelov oziroma lestvic vrednot. V našem prispevku bomo opisali Muskovo lestvico vrednot (Musek, 2015), katera zajema štiri ravni hierarhične strukture. Omenjen model oziroma lestvica je zgrajena tako, da sta na vrhu hierarhije dve skupini največjega obsega in sicer dionizične in apolonske vrednote. Le ti se nadaljnje delita v vsaka po dve vrednostni kategoriji večjega obsega. Torej se dionizične vrednote razdelijo na dva vrednotna tipa, hedonski in potenični tip. Apolonske vrednote pa na moralni in izpolnitveni tip. Slika 3 prikazuje Muskov (2015) model vrednot.



Slika 3: Muskova lestvica vrednot.
Vir: Musek, 2015.

2.3 Čustva in čustvena inteligenca pri zavestnem vodenju

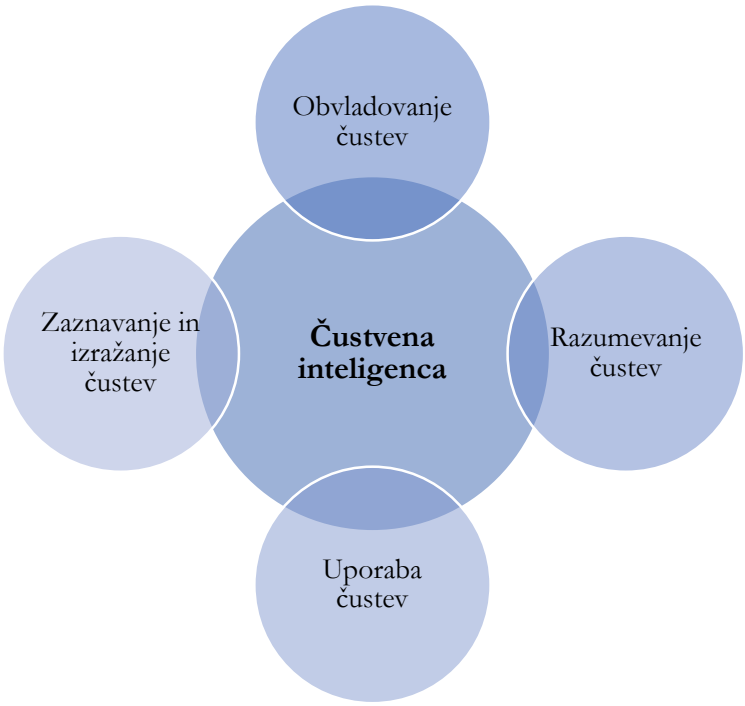
Čustvena inteligenca je postala zelo priljubljena tema v managementu, zlasti o organizacijskem vedenju in vodenju, o čemer pričajo številne študije objavljene v priznanih strokovnih revijah na področju vodenja. Čustvena inteligenca se nanaša na sposobnost zaznavanja čustev, izražanja čustev, uporabe čustev, razumevanja in

razuma s čustvi ter za ustvarjanje čustev v sebi in drugih (Mayer, Salovey in Caruso, 2000). Glede na to, da te sposobnosti vplivajo na družbene interakcije, je jasno, da čustvena inteligenca vpliva na organizacijske odnose. To še posebej velja za odnose med vodstvenim kadrom (Miao, Humphrey in Qian, 2018).

Čustvena inteligenca se je začela kot znanstvena preiskava na standardno inteligenco povezano s splošnimi inteligenčnimi in čustvenimi stanji in neodvisnimi od njih (Mayer, Caruso in Salovey, 2000). Čustveno inteligenco od takrat naprej priznavajo tudi akademiki, kot obliko inteligence, ki je ločena od IQ ali splošne inteligence (Matthews, Zeidner in Roberts, 2003). Koncept čustvene inteligence lahko razumemo v povezavi med razumom in čustvi (Ciarrochi, Forgas in Mayer, 2001) in da sta tako čustveno kot intelektualno sklepanje sestavni del človekovega preživetja. Študije kažejo, da samo poznavanje ali spoznavanje dogodkov ne zadostuje za uspešno odločanje (Damasio, 2000). Potrebna so tudi čustva, ki izražajo posameznikovo zavest o svojem položaju v svetu (Fridja, 1994). Mayer in sod. (2002) razlikujejo med znanstvenim modelom čustvene inteligence (model na osnovi sposobnosti) v primerjavi s priljubljenim pogledom na čustveno inteligenco (mešani model ali osebnostni model). Kot sta kasneje trdila Ashkanasy in Dasborough (2015), so nekatere konceptualizacije čustvene inteligence preobsežne in se prekrivajo z nekaterimi osebnostnimi lastnosti in stališči.

Mayerjeva in Saloveyeva (2003) konceptualizacija čustvene inteligence se osredotoča posebej na čustvene sposobnosti, ki povezujejo čustvo in spoznanje. Ta model akademiki tudi navajajo da je najprimernejši model čustvene inteligence.

Spodnja slika prikazuje model čustvene inteligence po Mayerju in Saloveyu (1997), ki prikazuje štiri sposobnosti, ki jih ta model določa, to so: obvladovanje čustev; razumevanje čustev; uporaba čustev in zaznavanje in izražanje čustev. Ta čustva merimo s testom čustvene inteligence. Test od izpolnjevalca zahteva, da reši problem s pomočjo čustev. Rezultati takih testov pa pokažejo, kakšno je razmerje med temi štirimi elementi in kakšna je njegovo celotna ocena čustvene inteligence.



Slika 4: Model čustvene inteligence.
Vir: Mayer, Salovey in Caruso, 1999.

2.4 Cilj ali motiv pri zavestnem vodenju

Kljub različnim teorijam vodenja je glavni namen vsakega vodje svoje sledilce popeljati do cilja. Socialno kognitivna teorija pravi, da ko se zavestni vodje samozavedajo svojega delovanja, so nagnjeni k temu, da si postavijo cilje napredujočega izboljšanja, pa čeprav se tega ne zavedajo. Poleg tega družbeno kognitivna teorija pravi, da zavestni vodja, ki si ne postavi ciljev, ne doseže sprememb niti v kompetencah niti v prizadevanju, posledično jih presegajo drugi vodje, ki so si sami zastavili določene cilje s ciljem napredujočega izboljšanja (Bandura, 1991). Označujemo dve različni značilnosti ciljnega usmerjenja pri zavestnem vodenju: prva je usmerjenost k učenju in druga usmerjenost v uspešnost. Zavestni vodja bo želeno spremembo dosegel skupno z usmerjenostjo svojih sledilcev (Senge, 2006).

Zavestni vodje, ki so usmerjeni k izpopolnjevanju svojih osebnih standardov, kažejo visoko stopnjo samozavedanja (Bandura, 1991), kar pomeni, da bodo zavestni vodje,

ki se usmerjajo k učenju igrali ključno vlogo, saj se za postopno izboljševanje svojega delovanja zanašajo na gradnjo svojih sposobnosti z učenjem (Mayer, Caruso in Salovey, 2016). To so standardi, ki jih izpolnjujejo za doseganje postopnega izboljšanja svojih zmogljivosti. Po drugi strani pa zavestni vodje, ki niso predani toliko svojemu osebnemu standardu, spremenijo svoje vedenje glede na situacijo. Po socialno kognitivni teoriji zavestni vodja, ki verjame vase, da lahko doseže želeno spremembo, ima interes in zaupanje vase lažje vodi svoje sledilce (Bandura, 2002).

3 Zaključek

Vzhodna znanost, ki jo najdemo v starodavnih praksah joge pred 5.000 leti, je sodobne iskalce naučila, da zavest ni nekaj, kar človek lahko vidi, vonja, okusi ali občuti. Prav tako ni povezano s starostjo, spolom, barvo ali vero. Baccerani, Mascherpa in Minozzo (2013) navajajo, da je meditacija trening uma, pri katerem se osveščenost izvaja zavestno z osredotočanjem na pozornost. Tok, je funkcija osredotočanja pozornosti v daljšem časovnem obdobju, ki jo povzročajo zunanji interesi, kot sta vadba meditacije ali prirojena sposobnost, prispeva k vzorcu moči osebnosti, ki hkrati vodi v izboljšanje pozornosti. Obstajajo študije, ki navajajo, da je pretok rezultat praktične pozornosti in da se premišljenost doseže z meditacijo. Na voljo je tudi veliko literature o meditaciji, ki vpliva na pozornost in osredotočenost.

Po pregledu ustrezne literature na temo samozavedanja v zavestnem vodenju, ugotavljamo, da identiteta; vrednote; čustva in čustvena inteligenca; ter cilj ali motiv sooblikujejo samozavedanje, ki močno vpliva na samega vodjo. Le toliko, kolikor je vodja zavesten, toliko je lahko zavestna tudi organizacija v kateri vodja nagovarja svoje sledilce. V svetu zaznavamo velik porast zanimanja za ta stil vodenja, saj se zavedamo, da moramo zavestno prehajati k reševanju težav, če želimo delati širše dobro.

Svet se spreminja z veliko hitrostjo in samo vodje, ki se bodo lahko prilagodili temu novemu gospodarskemu, socialnemu, okoljskemu, tehnološkemu in demografskemu kontekstu bodo lahko uspevali v tej novi paradigmi. Zavestno vodenje je nova paradigma vodenja, ki uravnava skupno dobro z lastnim interesom posameznika. Vodi ga vizija in temeljne vrednote do cilja za dobrobit vseh. Največji cilj zavestnega vodje pa je soustvariti obetavno prihodnost za naslednje generacije.

Zavestni vodje tako ustvarjajo organizacijsko kulturo, v kateri lahko njegovi sledilci uspevajo in rastejo v polnem potencialu, kar omogoča organizaciji, da doseže napredne rezultate in pozitivno vpliva na družbo.

Literatura

Arch, J. J. in Craske, M. G. (2006). 'Mechanisms of mindfulness: emotion regulation following a focused breathing induction', Behavior Research and Therapy, 44, str. 1849–1858.

Ashkanasy, N. M. in Dasborough, M. T. (2015). Reintroducing "emotional intelligence": What it is and where we stand now. In A. Scarantino (Ed.), Emotion researcher. Retrieved from http:// emotionresearcher.com/reintroducing-emotional-intelligence-what-it-is-and-where-we-standnow/.

Avolio, B. J. in Gardner W. L. (2005). Authentic leadership development: Getting to the root of positive forms of leadership. The Leadership Quarterly, 16(3), str. 314-338

Avolio, B. J., Bass, B. M., Jung, D. I. in Berson, Y. (2003). Predicting unit performance by assessing transformational and transactional leadership. Journal of Applied Psychology, 88(2), str. 207–218.

Avolio, B. J., Walumbwa, F. O. in Weber, T. J. (2009). Leadership: Current Theories, Research, and Future Directions. Annual Review of Psychology, 60, str. 421-449.

Baccarani C., Mascherpa V. in Minozzo M. (2013). Zen and well-being at the workplace. The TQM Journal, 25(6), str. 606-624

Bandura, A. (1991). "Social cognitive theory of self-regulation", Organizational Behavior and Human Decision Processes, Vol. 50 No. 2, pp. 248-287.

Bandura, A. (2002). "Social cognitive theory in cultural context", Applied Psychology, Vol. 51 No. 2, pp. 269-290.

Chemers, M. M. (2001). Leadership effectiveness: An integrative review. In M. A. Hogg, & R. S. Tindale (Eds.), Blackwell handbook of social psychology: Group processes (pp. 376 – 399). Oxford, UK7 Blackwell.

Ciarrochi, J., Forgas, J. P. in Mayer, J. D. (2001). Emotional intelligence in everyday life: A scientific enquiry (pp. 113132). Philadelphia, PA: Psychology Press.

Damasio, A. R. (2000). Decartes error: Emotion reason and the human brain. New York, NY: Quill.

Fridja, N. H. (1994). Emotions are functional, most of the time. In P. Ekman & R. L. Davidson (Eds.), The nature of emotion: Fundamental questions (pp. 112122). New York, NY: Oxford University Press.

Fry, L. W. in Slocum Jr., J. W. (2008). Maximizing the Triple Bottom Line through Spiritual Leadership. Organizational Dynamics, 37, str. 86-96.

Fyke, J. P. in Buzzanell, P. M. (2013). The ethics of conscious capitalism: Wicked problems in leading change and changing leaders. human relations, 66(12), str. 1619-1642.

Goleman D., Boyatzis R. in McKee A. (2002). Transforming the art of leadership into the science of results. Little, Brown Book Group.

Hayden, G. (2016). A Deeper Look into the Conscious Leader. Prevzeto 5. 9 2019 iz Conscious Leadership Consultancy: http://consciousleadershipconsultancy.com/a-deeper-look-into-the-conscious-leader/.

Hayden, G. (2017). Coaching Questions for Conscious Leaders. Prevzeto 5. 9 2019 iz Conscious Leadership Consultancy: http://consciousleadershipconsultancy.com/coaching-questions-for-conscious-leaders/.

Higgins, E. T. (1987). Self-discrepancy: A theory relating self and affect. Psychological Review, 94, 319 – 340.

Knippenberg, D., De Cremer, D. in Hogg, M.A. (2004). Leadership, self and identity. The Leadership Quarterly, 15(6), str. 824-856.

Leary, M. R. in Tangney, J. P. (2003). Handbook of self and identity. New York7 The Guilford Press.

Lord, R. G. in Brown, D. J. (2004). Leadership processes and follower identity. Mahwah, NJ7 Lawrence Erlbaum Associates.

Markus, H. in Nurius, P. (1986). Possible selves. American Psychologist, 41, 954 – 969.

Matthews, G., Zeidner, M. in Roberts, R. (2003). Emotional intelligence: Science and myth. Cambridge, MA: MIT.

Mayer, D. J., Salovey, P. in Caruso, R. D. (1999). Emotional Intelligence Meets traditional standards for an Intelligence. Inteligence, 2(4), str. 267-298.

Mayer, J. D., Caruso, D. in Salovey, P. (2000). Emotional intelligence meets traditional standards for an intelligence. Intelligence, 27, 267298.

Mayer, J. D., Caruso, D. R. in Salovey, P. (2016). The ability model of emotional intelligence: Principles and updates. Emotion Review, 290300, 8(4).

Mayer, J. D., Salovey, P. in Caruso, D. (2000). Competing models of emotional intelligence. In R. J. Sternberg (Ed.), Handbook of intelligence (2nd ed.). Cambridge: Cambridge University Press.

Mayer, J. D., Salovey, P. in Caruso, D. (2002). Mayer-Salovey-Caruso emotional intelligence test: MSCEIT user's manual. Toronto: Multi-Health Systems.

Mayer, J. D., Salovey, P., Caruso, D. R. in Sitareneios, G. (2003). Measuring emotional intelligence with the MSCEIT V2.0. Emotion, 3, 97105.

Mayer, J. in Salovey, P. (1997). What is emotional intelligence? In P. Salovey & D. Sluyter (Eds.), Emotional development and emotional intelligence: Implications for educators (pp. 331). New York, NY: Basic Books.

Medja, J. (2008). Poslovni model vrednot kot način vodenja in ravnanja z zaposlenimi v Unicredit Group. Prevzeto 30. 1. 2020 iz Gospodarske zbornice Dolenjske in Bele krajine: http://www.slovenskavojska.si/fileadmin/slovenska_vojska/pdf/bilten_sv/bilten_sv05_7_2.pdf#page=71

Meglino, B. M. in Ravlin, E. C. (1998). Individual values in organizations: Concepts, controversies, and research. Journal of Management, 24(3), str. 351–389.

Miao, C., Humphrey, R. H. in Qian, S. (2018). A cross-cultural meta-analysis of how leader emotional intelligence influences subordinate task performance and organizational citizenship behavior. Journal of World Business, , 463474, 53(4).

Musek, J. (2015). Osebnost, vrednote in psihično blagostanje. Pridobljeno s https://www.researchgate.net/profile/Janek_Musek2/publication/283441465_Osebnost_vrednote_in_psihicno_blagostanje/links/56385ad208ae51ccb3cbf03e.pdf.

Salovey, P. in Mayer, J.D. (1990). "Emotional intelligence", Imagination, Cognition and Personality, Vol. 9 No. 3, pp. 185-211.

Sedikides, C. in Gregg, A. (2003). Portraits of the self. In M. A. Hogg, & J. Cooper (Eds.), The Sage handbook of social psychology (pp. 110 – 138). London7 Sage.

Senge, P.M. (2006). The Fifth Discipline: The Art and Practice of The Learning Organization, Crown Pub, Danvers, MA.

Sethi, D. (2009). "Mindful Leadership", Leader to leader, str. 7-11

Springborg, C. (2010). Leadership as art – leaders coming to their senses. Leadership, 6(3), str. 243-258.

Stets, J. E. in Burke, P. J. (2003). A sociological approach to self and identity. In M. R. Leary, & J. P. Tangney (Eds.), Handbook of self and identity (pp. 128 – 152). New York7 The Guilford Press.

Stone-Johnson, C. (2014). Responsible Leadership. Educational Administration Quarterly, 50(4), str. 645-674.

Ward, S. F. in Haase, B. (2016). Conscious Leadership. AORN Journal, 433.e.e9, 104(5), 433.e1-433.e9.

Wheatley, M. J. (2017). Who Do We Choose to Be? Facing Reality, Claiming Leadership. Restoring Sanity. Oakland, CA: Berrett-Koehler Publishers.

Yukl, G. (1998). Leadership in organizations (4th ed.). Englewood Cliffs, NJ7 Prentice Hall.

Zander, L., Jonsen, K. in Mockaitis, A. I. (2016). Leveraging values in global organizations: Premises, paradoxes and progress. Management International Review, 56(2), str. 149-169. Doi: https://doi.org/10.1007/s11575-015-0277-0.