

WASTE AS PRODUCT OF ORGANISATIONAL CULTURE

Dobrochna SZTAJERSKA¹, Karolina PAWLUSIAK²

¹ Cavalry Captain Witold Pilecki State University of Malopolska in Oswiecim, adjunct;
dobrochna.sztajerska@dydaktyk.uczelniaoswiecim.edu.pl, ORCID: 0000-0002-8098-282X

¹ Cavalry Captain Witold Pilecki State University of Malopolska in Oswiecim, teaching assistant;
karolina.pawlusiak@dydaktyk.uczelniaoswiecim.edu.pl, ORCID: 0000-0002-1078-4959

Abstract

The study was conducted to determine whether there is a possibility to hypothesize that there is a link between the type of organizational culture and the type of identified waste. The study was based on several case studies that involved companies of different type, size and ownership, etc. A dozen or so, most frequently identified waste in organizations, including typically European and typical for Poland, were confronted with one of the organizational culture models – the Competing Values Model (CVM). CVM presents an organizational culture as a construct characterized by mutually exclusive dimensions, which affect the way of managing the organization, making decisions, managing change, etc. CVM is recognized as a model that can provide common metrics for multi-level, inter-organizational and intercultural analysis, but, according to the authors, which was stated in the conclusion, do not cover all the necessary areas. Research indicates that the above-mentioned link may actually exist and it is worth carrying out more detailed research on a larger scale to confirm the results.

Introduction

The organisational culture was subjected to studies for many years (Schein, 1983; Svyantek and DeShon, 1993; Sułkowski, 2001; Chmielewska-Muciek, 2009), so was the muda (waste) concept (Womack and Jones, 1996; Rother and Shook, 2003; Liker, 2003; Lisiecka and Burka, 2015). However, there is no research linking these two constructs, especially when it comes to looking for specific waste depending on the organisational culture.

Due to the fact that many authors have been considering the organisational culture, on the one hand, the phenomenon became less and less unambiguous and on the other, new dimensions were discovered, giving the opportunity to explore further issues in this area, for example the above mentioned association with the organisational culture (Schein, 1985; Tohidi and Jabbari, 2011; Wszedorowska, 2015; Maxfield, 2019). Taking this into account, one can expect the existence of many definitions of this concept. It is mainly related to the fact that organisational culture influences the organisation as a system, its processes, as well as their components, thus every aspect of every organisation. As such organisational culture is often defined as “*the collective programming of the mind that distinguishes the members of one group or category of people from others*” (Hofstede, 1980) and as “*pattern of basic assumptions that a given group has invented, discovered or developed in learning to cope with its problems of external adaptation and internal integration, and that has worked well enough to be considered valid, and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems*” (Schein, 1984). The culture concept informs about the organisation (Smircich, 1983) and organisation is being considered as a culture itself (Kostera, 1996). The definitions make the reader aware that the concept of culture in organisation is difficult to understand and it is particularly vital to familiarize new employees with the specific culture of a chosen organisation. Only this way they can understand how the organisation really works, they can accept it and be accepted by their co-workers (Mościcki and Świtała, 2016).

Many models of the organisational culture can be distinguished (Schein, 1984; Hofstede, 1997; Wojtowicz, 2004) among them the model of competing values (CVM), which is the basis of the research described in this paper. The Competing Values Model was originally developed to point out the efficiency indicators in organisations (Quinn and Rohrbaugh, 1983) and later on was used to characterize organisational culture (Cameron and Ettington, 1988). The model is based on two dimensions, with two opposite characteristics: stability versus flexibility and internal versus external orientation. These dimensions form axes that divide a plan into four quadrants representing opposites that compete with each other (Chuda, 2017), which was presented in Figure 1.

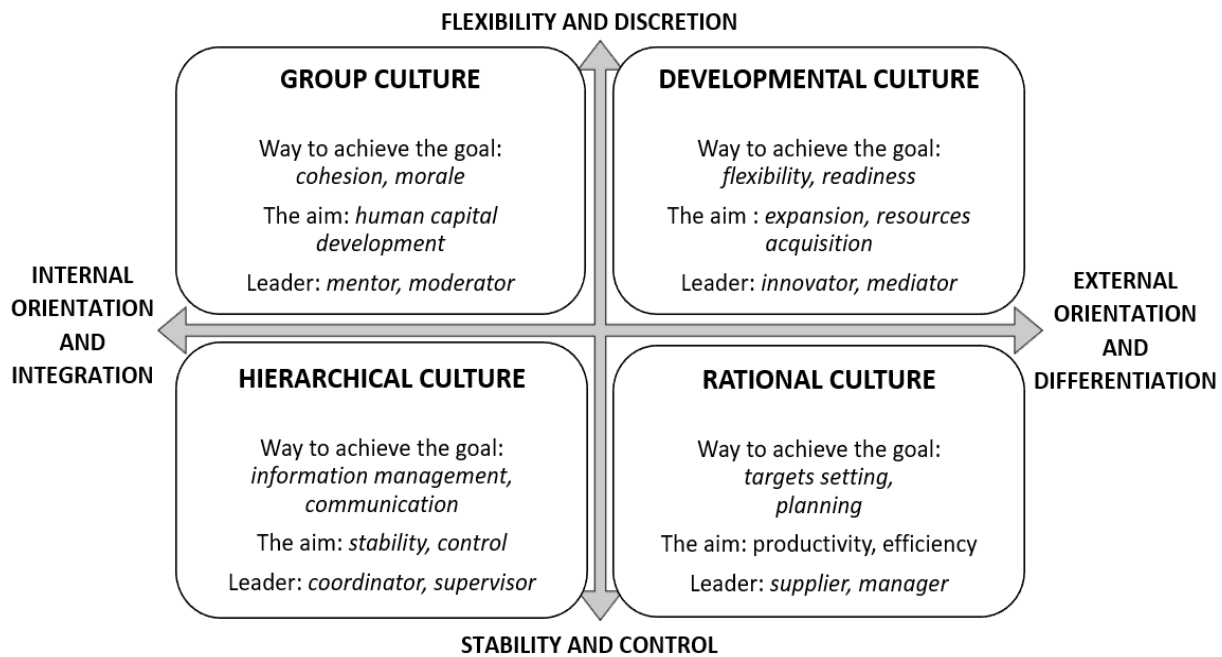


Figure 1 Structure of CVM (Quinn and Rohrbaugh, 1983).

It is important to mention, that the model was validated several times (Quinn and Spreitzer, 1991; Howard, 1998; Kalliath et al., 1999). It was done not only to show its usefulness as an instrument determining organisational culture, but also one that could distinguish organisations from each other (Kwan and Walker, 2004).

The waste, in Japanese called *muda*, is the term typically connected to the Lean concept. The simplest definition describes muda as all the activities that do not add value (Womack et al., 1990). In the classic version, Taiichi Ohno (1988) – the father of Toyota Production System – distinguished seven types of waste: transportation, inventory, motion, waiting, overproduction, over-processing and defects. Over time, in Europe the untapped potential of employees was also added to the waste list and referred to as skills. What is more, there are also muda specific to a given country – for example in Poland one can distinguish the waste called blaming and related to looking for those responsible for the problem and punishing for mistakes. Muda is not a fixed concept, different companies and individuals have explained or identified other forms of waste, like work-in-process, equipment or start-up wastes (Roberts and Sergesketter, 1993). They are all visible in the workplace, though their extend and type will depend on the organisation.

Based on a query of literature and observations of various organisational cultures, the authors of the paper decided to formulate a research problem in the form of the following questions:

1. Is there a relationship between the type of organisational culture and the types of waste that result from the processes being carried out?
2. Is there a possibility to identify any national-specific-waste?
3. Could waste be a sign of problems within the organisation culture itself or are they a natural phenomenon existing in every organisation?
4. Is it possible to identify waste pointing to certain pathologies of the organisational culture?

As it occurred more areas of interest were discovered while conducting the research.

Methods

The study was based on the Competing Values Model mentioned in the introduction. The aim was not to confront the organisational culture presented in the organisation with the desired type, but to use the model to classify the organisation to one of the types distinguished by the authors of the theory. The Organisational Culture Assessment Instrument (OCAI) by Cameron and Quin (1999) was used to test the type of culture. It examines six basic dimensions of culture: general characteristics of the organisation, leadership style, style of employee management, factors ensuring the consistency of the organisation, greatest emphasis and the criteria for success in the organisation. Usually the results obtained from the OCAI are transferred to a radar chart, but as mentioned above, for further research only the identification of the culture type was important in the study, therefore the results were transferred to the culture dimensions matrix (fig. 2). The desired type of culture was also identified as needed for further discussion over possible connection between the most frequent waste and the type, not only of the current, but also the desired culture.

The next step was to identify the waste. An original muda tool for identifying waste in Polish organisations was used. Twelve categories of waste and several examples of each of them were identified. Except the nine (motion and transportation were combined), mentioned in the introduction, also: looking for and explaining, lack of employee involvement, improper indicators, misuse of computer/telephone). The respondents had as well the opportunity to provide their own examples, if they fit the category and were not present in the tool.

The research was carried out in January and February 2021 on four service processes in various organisations: university, a hard coal mine, a funeral home and a gas station. The respondents were sent a questionnaire via business e-mails, and the process owners had been trained in how to correctly fill them in. The authors of the study made sure that the process owners understood the essence of waste. Employees within 5 days registered waste in accordance with the proposed tool. At the same time, the process owners assessed the organisational culture on the basis of the OCAI.

The organisations chosen as case studies were known to the researchers. It was crucial due to the fact that in order to draw proper conclusions of actual reasons influencing the waste produced by the organisations and avoid most common biases, a thorough knowledge of the processes performed in the studied organisations was needed on this preliminary level of the research. The knowledge covered both concepts – organisational culture and waste in the studied organisations.

Results

During the study, process owners in the studied organisations completed the OCAI questionnaire and the authors of the study created the culture dimensions matrix (fig. 2). It represents the current (bold) culture in the four researched organisations and the one that is desired (contour) by the employees of a given organisation.

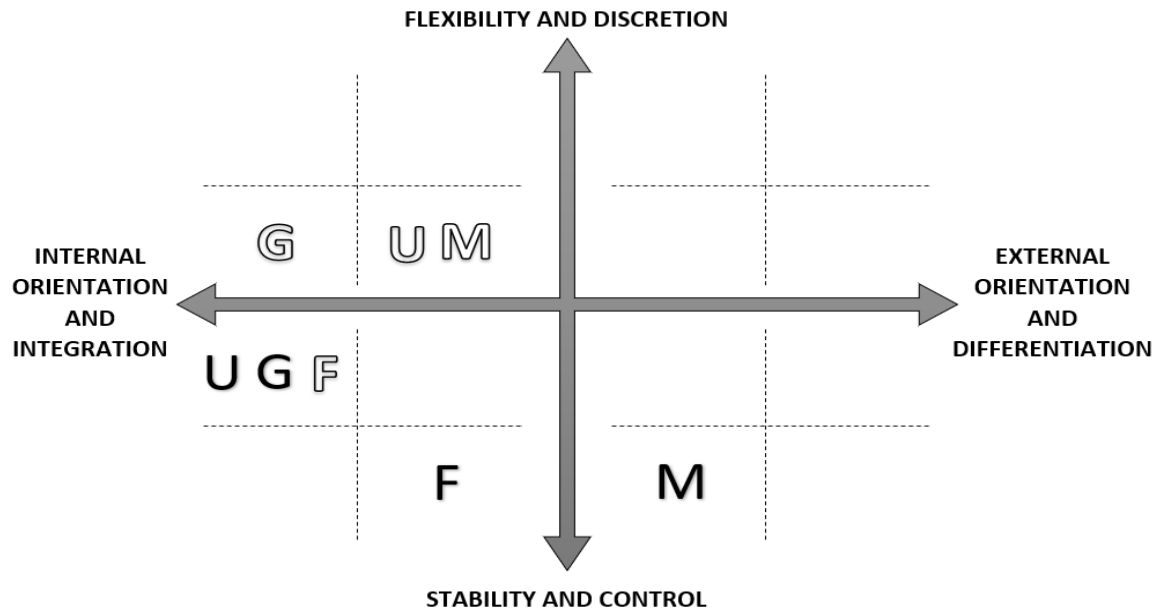


Figure 2 Current and desired culture of the surveyed organisations.

Note: the letters in the picture signify: University (U), Mine (M), Gas station (G), Funeral home (F)

The results show that all of the researched organisations are more oriented towards stability and control, but also towards integration and internal orientation. When it comes to the desired state, companies also stick to integration, but they wish more flexibility and discretion. It is also important to notice that the organisations are similar to each other, both in terms of the current culture and the desired one. Based on the results, it can be assumed that there is a certain trend among the researched organisations – hierarchy and the desire for groupness. It is believed that such a result is connected with a sense of security generally desired in Polish organisations, that do not particularly like changes and consider risk as a threat (Sobolewski and Marcinkowski, 2017; Raport o zarządzaniu zmianą, 2018; Jonek-Kowalska, 2020).

The study over waste was based on their twelve potential categories. In the course of the research, the examples of the categories with the highest rank were selected. It turned out that five categories were common to at least two organisations: overproduction, motion and transportation, waiting, searching and finding out and misuse of computer/telephone. Table 1 presents the most common waste in researched organisations, thus contains only the key results.

Waste	Example	University (U)		Mine (M)		Gas station (G)		Funeral home (F)	
Overproduction	sending e-mails to everyone in address book	10	1	26	13	19	2	8	0
	printing documents that may be electronic		2		2		11		5
Motion, transportation	transferring documents of one type/case between rooms, floors, buildings	11	8	7	6	16	8	13	6
Overprocessing	other department's documents explanation	4	1	11	1	9	0	14	7
Waiting (for)	superior's signature		11		3		0		0
	documents from other departments	18	4	17	0	15	2	16	9
	feedback		2		4		4		9
	office device to work		1		8		9		0

Searching, finding out	searching for files on computer		7		2		4		9
	searching for documents	21	5	15	4	15	5	23	4
	explaining problem situations		7		9		6		10
Skills (E)	wasting potential on things others should do	7	4	11	6	10	4	18	8
Blaming (PL)	external between processes – between departments	3	2	16	14	3	1	7	0
Lack of employee involvement	in matters arising directly from scope of activities	3	0	16	6	8	3	8	5
Misuse of computer/telephone	arranging private affairs	15	6	0	0	16	6	11	5
	social media		9		0		7		3

Table 1. Key waste examples in the researched organisations

Note: For each organisation the main categories of waste were highlighted in grey and the most common examples in bold.

The university is an organisation with a mission and is empowered by the law and regulations. The resulting waste partially reflect it, taking into account such muda as waiting for the supervisor's signature, handing over documents or explaining problem situations. The misuse of a computer or telephone for private purposes and in particular using social media shows that despite or maybe because of many tasks to be performed, there is still a need to engage with these forms of activity. This can be beneficial for work, as it helps to take a mental break from it (Carlson et al., 2016), especially when its rather monotonous as in this case, but on the other hand, some authors estimate that using Facebook reduces office productivity by 1.5 %, and British companies alone lose around \$ 2.2 billion a year to social networking (Koerner, 2010).

In the coal mines quality is mostly not built into the work performed by the staff, it is unfortunately treated as an additional task. Hard coal mines are specific workplaces, in many cases with an organizational culture remaining in the previous system and reactive to market needs (Sztajerska and Bogdański, 2021). Perhaps that is why the mine is the only one among the researched organisations, in which such waste as blaming and lack of employee engagement were identified. Employees subconsciously may not contribute to their work knowing that it is partially meaningless, which may turn into a greater number of crisis situations and blaming in such a case. Analysis of the overall assessment of the significance of risk in organisations showed in one of the studies that as the greatest risk, Polish respondents indicate a lack of employee commitment in the activities of the organization (Wronka-Pośpiech et al., 2016). It probably may be considered as one of the typically Polish waste, but this may also result from the specific features of Generation Z and be more universal. A market culture is demonstrated in the mine, but a clan culture is desired by the employees, which may be caused by the need to get rid of blaming and operating in a more friendly atmosphere.

The waste revealed at the gas station were mainly related to the documentation and transportation of documents. The researched organization is a small and developing company, which, however, doesn't operate on the basis of a lean approach and most often actions are performed from scratch, rather than using ready-made patterns, like templates, for instance. It was noticed, that despite the fact that the employees did their job well, which was very absorbing when there were clients, they also found time to misuse a computer or telephone, which simply might be due to the not even customer traffic and lack of other tasks to fulfil the time in between. This organisation has been characterized as having a hierarchical culture, thus characterised by rigid standards imposed by the management of the company. However, the study shows that there is a desire for group culture, which symptoms are present there, but suppressed by orders from the superiors.

The last of the researched organisations is a small, but thriving funeral home. The waste observed here were associated, as in the case of the University, with searching for documentation and explaining, which indicated that not only large organisations such as universities, but also small ones had a problem with proper documentation maintenance. This organisation, as in the case of the university, presents a hierarchical culture, which is a sign that structures are important even in small companies. The funeral home also points a hierarchical culture as a desired one, but with a tendency to clan culture, which, to some extent, is similar to the university. Especially in this case, the juxtaposition of these two organisations shows that there may be a relationship between the type of culture and the waste it produces.

Discussion

Analysing the results obtained from the OCAI questionnaire and comparing them with the waste identified in the researched organisations, it can be concluded that there is a relationship between organisational culture and waste in organisations. Out of the four analysed organisations, three (university, gas station, funeral home) have a hierarchical culture and showed some similarities in the generated waste. The university and the gas station show the greatest similarities, which is another argument supporting the statement about the possible relationship between organisational culture and waste, because these two are entities with a completely different profile and what connects them is the type of organisational culture. It turns out that four key categories in the university are the same four key categories in the gas station, in which five key categories were identified, the differentiating one was the overproduction, but the authors, knowing the process well, tend to believe that it is also one of major waste in the university, only, which is quite thought-provoking, not identified by the employees as such. It should be mentioned that these two organisations, as the only two of the three that have a hierarchical culture, also desire the same culture – a clan one. Both, the university and the gas station, show only two similarities with a funeral home, but this may be due to the fact that, as already mentioned, the desired state of the funeral home in terms of organisational culture is not the clan culture, but the hierarchical one. This could indicate that the need for a specific type of culture may be so ingrained in the minds of employees that the generated waste could be more related to the desired state than the current one. What should be further investigated.

The mine is the only organisation in the study that doesn't represent a hierarchical culture, but, as showed in the matrix (fig. 1), is close to it. The difference though, may be the reason why it shows less similarities with other organisations when it comes to generated waste. On the other hand, hard coal mines, as already stated above, are very specific organizations because, as it seems, they should be market-oriented, and in fact they try to achieve it using management methods specific for the centrally controlled organizations, characteristic for the previous political system in Poland. Like all the other organisations, the mine shows a lot of waste in the waiting area, but due to the fact that it is a problematic category for all the organisations, it should not be treated as a key link with other organisations and it can be assumed that the waste related to waiting is typical for Poland. Ignoring this category, it turns out that the only similarity the mine shows with the three other organisations is overproduction shared with the gas station. These two have different current organisational cultures, but both desire a clan culture, so it may be the reason of the similarity.

As mentioned above, only one category of waste – waiting – was shown as the predominant category in all the organisations, the authors tend to assume that this is a waste that is frequent or even typical for Polish organisations. It is probably due to the fact that Poland

is a hierarchical society. People accept a hierarchical order in which everyone has their place. Organisational hierarchy is seen as a norm, centralization is popular, subordinates expect to be told what to do, and the ideal superior is a benevolent autocrat (Hofstede Insights, 2021). The authors proposed four examples of waste in the waiting category and all of them turned out to be important for the researched organisations. For the university it was waiting for the signature of the superior, which is believed to be rather obvious, due to the fact that among all the researched organisations, according to the OCAI questionnaire, the university demonstrates the strongest hierarchical culture. Very often, one document requires signatures of several people, who occupy different hierarchical positions and are present at work at different times and most frequently different buildings, which directly affects the period of waiting for the signature. When it comes to the funeral home, the key area in the waiting category is waiting for: documents from other departments and feedback, which may be due to the specific documentation that is necessary to conduct a funeral service. Interestingly, waiting for the office equipment to work proved to be a key area for the mine and the gas station, again indicating a similarity between these two organisations. Due to the fact that both organisations share a desired culture and show similarities in terms of overproduction and waiting, it could support the thesis that not only the current culture, but also the desired one may be related to waste in the organisations.

For the authors of the study, it was very difficult to select organisations that would even demonstrate any signs of developmental culture, which supports the statement about the tendency towards hierarchy in Poland. This fact may be surprising for people from other countries without such a background as Poland. Taking into account the fact that the organisational culture attracts people with specific characteristics, and the research showed that there is a high probability that we will deal with hierarchical cultures in Polish organisations it may indicate a large number of people with a tendency to be subordinate and a relatively small number of people willing to take risk. Thanks to such tendencies, the authors believe, that it is possible to indicate not only most frequent organisational cultures but also waste.

The results of the authors' original muda tool show that blaming and lack of employee involvement is linked only to the mine and that is the only organisation with a declared market culture, but it seems to confirm existence of some internal pathologies in the organisation more than a relationship between organisational culture and waste. Therefore, it seems to be justified that the conducted study should be extended to include a deeper analysis of the organisational culture than the CVM model offers. It might be even useful to use several models.

Another interesting aspect that may also create further considerations, is the fact that the funeral home was the only one that has a hierarchical culture as desirable and the only one that generates waste in the area of overprocessing and skills. It is worth mentioning that the waste determined as skills is described in the literature as typically European (Liker, 2003), but the results of the study show that only the organisation presents some key waste in this area. However, this fact may result from too small a sample, so it seems to be another argument indicating the need of extending the study.

Summary

People involved in the processes very often can't spot waste. Sometimes it is even hard to convince them that they make mistakes at work or just do not do things in the most efficient

way. This is proved for example by the fact that the participants of the study could propose their own examples of waste in the questionnaire, but only few took advantage of this opportunity. It seems justified to guarantee a participation of an external observer in search for waste to ensure objectivity.

When assessing waste according to the original muda tool used in the research, it is important to explain the people involved how to complete the questionnaire. It may happen, especially if the study lasts longer than the proposed 5 days, that the waste will be identified taking into consideration only the given examples and mostly these noticed at first. It is commonly known as the *availability heuristic* (Kahneman et al., 1982).

The construction of the tool itself is also an important issue, although the questionnaire seems to be universal, it may happen, even though not very likely, that there will be organisations that simply will not generate waste in any of the proposed categories or will produce such waste that cannot be matched to any of the categories. It is obvious that the original muda tool proposed in the paper should therefore be validated on a large number of different types of companies, to be sure that it is universal enough to compare the obtained results with each other. Especially when used in other countries than Poland.

It is also crucial to research different parts of the organisation, it will certainly give a better picture of the situation, although the generalisation of waste in an organisation may not be possible.

An issue that deserves further research is the waste typical for Polish organisations. Several potential examples seem to have been identified, and it may be worth further exploration.

Although the authors are able to recognise a link between the current and desired organisational cultures and waste, they are aware that the organisational culture analysis performed by the use of the Competing Values Model may not be sufficient and may distort the obtained results, as well as the case study method limited only to several cases. The Competing Values Model, according to the authors, is not enough when it comes to comparing the results with waste, as it does not explore all the dimensions, for example organisational pathologies. Failure to diagnose pathologies in an organisation may turn into incorrect waste analysis. Typical waste which can be observed in Poland is blaming. This muda can be generated just like other classical waste, but mostly results from the pathology in the organisation. On the basis of CVM, the authors weren't able to determine whether the culture of a given organisation is or not pathological and due to the fact creates certain waste.

References

- Cameron, K.S., Ettington, D.R. (1988), “The conceptual foundations of organisational culture”, in Smart, J.C. (Ed.), *Higher Education: Handbook of Theory and Research*, Vol. 4, Agathon Press, New York, NY, pp. 356-396.
- Cameron, K.S., Quinn, R.E. (1999), *Diagnosing and changing organisational culture*, Addison-Wesley, Massachusetts.
- Carlson, J., Zivnuska, S., Harris, R.B., Harris, K.J., Carlson, D.S. (2016), “Social Media Use in the Workplace: A Study of Dual Effects”, *Journal of Organizational and End User Computing*, Vol. 28, Issue 1, pp. 15-31.
- Chmielewska-Muciek, D. (2009), “Dyskusja nad pojęciem kultury organizacyjnej”, *Annales Universitatis Mariae Curie-Skłodowska, Sectio H – Oeconomica*, VOL. XLIII, 20, pp. 317-331.

- Hofstede, G. (1980), *Culture's Consequences. International Differences in Work-Related Values*, Sage publications, Newbury Park, California.
- Hofstede, G. (1997), *Cultures and Organisations. Software of the Mind*, McGraw, New York, NY.
- Hofstede, G. (2000), *Kultury i organizacje. Zaprogramowanie umysłu*, PWE, Warszawa.
- Hofstede Insights (2021), “Porównanie krajów”, available at: <https://www.hofstede-insights.com/country-comparison/poland/> (accessed 12 April 2021).
- Howard, L.W. (1998), “Validating the competing values model as representation of organisational cultures”, *The International Journal of Organisational Analysis*, 6(3), pp. 231-250.
- Jonek-Kowalska, I. (2020), „Behawioralne aspekty zarządzania ryzykiem w polskich przedsiębiorstwach w świetle badań ankietowych”, Sońta-Drączkowska, E., Bednarska-Wnuk I., *Wybrane aspekty zarządzania procesami, projektami i ryzykiem w przedsiębiorstwach*, Wydawnictwo Uniwersytetu Łódzkiego, Łódź, pp. 231-244.
- Kahneman, D., Slovic, P., Tversky, A. (1982), *Judgment under uncertainty: heuristics and biases*, Cambridge University Press, New York, NY.
- Kalliath, T.J., Bluedorn, A.C., Gillespie, D.F. (1999), “A confirmatory factor analysis of the competing values instrument”, *Educational and Psychological Measurement*, 59(1), pp. 143-158.
- Koerner, B.I. (2010), “How Twitter and Facebook make us more productive”, available at: <https://www.wired.com/2010/02/st-essay-distraction/> (accessed 12 April 2021).
- Kostera, M. (1996), *Postmodernizm w zarządzaniu*, Polskie Wydawnictwo Ekonomiczne, Warszawa.
- Kwan, P., Walker, A. (2004), “Validating the competing values model as a representation of organisational culture through inter-institutional comparisons”, *Organisational Analysis*, Vol. 12, No. 1, pp. 21-37.
- Liker, J. (2003), *The Toyota Way: 14 Management Principles from the World's Greatest Manufacturer*, McGraw-Hill Professional, New York, NY.
- Lisiecka, K., Burka, I. (2015), “Źródła powstawania marnotrawstwa w organizacjach na przykładzie usługowych przedsiębiorstw ciepłowniczych”, *Zeszyty Naukowe Uniwersytetu ekonomicznego w Katowicach*, Nr 233, pp. 75-92.
- Maxfield, C. (2019), *Organisational Culture and Leadership*, Clanrye International, Jersey City, New Jersey.
- Mościcki, M., Świtała, M. (2016), “Identyfikacja profilu kultury organizacyjnej usługodawcy logistycznego z wykorzystaniem modelu wartości konkurujących”, *Zeszyty Naukowe Uniwersytetu Ekonomicznego w Katowicach*, Nr 306, pp. 20-33.
- Ohno, T. (1988), *Toyota Production System: Beyond Large Scale Production*, Productivity Press, Portland, Oregon.
- Quinn, R.E., Rohrbaugh, J. (1983), “A spatial model of effectiveness criteria: Towards a competing values approach to organisational analysis”, *Management Science*, 29(3), pp. 363-377.
- Quinn, R.E., Spreitzer, G.M. (1991), “The psychometrics of the competing values culture instrument and an analysis of the impact of organisational culture on quality of life”, in Woodman, R.W., Pasmore, W.A. (Eds.), *Research in Organisational Change and Development*, JAI Press, Greenwich, pp. 115-142.
- Roberts, H.V., Sergesketter, B.F. (1993), *Quality Is Personal: A Foundation For Total Quality Management*, Free Press, New York, NY.
- Rother, M., Shook, J. (2003), *Learning to see: value stream mapping to add value and eliminated muda*, The Lean Enterprise Institute, Cambridge.
- Rubin, J., (2018), *Raport o zarządzaniu zmianą, 2018, OBZZ-2018*, available at: <https://zmiana.edu.pl/raport-o-zarzadzaniu-zmiana/> (accessed 12 April 2021).
- Schein, E.H. (1983), “The role of the founder in creating organizational culture”, *Organizational dynamics*, 12, pp. 13-28.
- Schein, E.H. (1984), “Coming to a new awareness of organisational culture”, *Sloan Management Review*, 25, 2, pp. 3-16.
- Schein, E.H. (1985), *Organisational Culture and Leadership*, Jossey-Bass, San Francisco, California.
- Smircich, L. (1983), “Concept of Culture and Organisational Analysis”, *Administrative Science Quarterly*, 28(3), pp. 339-358.
- Sobolewski, H., Marcinkowski, B. (2017), “Zarządzanie ryzykiem w praktyce gospodarczej”, *Studia i Prace WNEiZ US*, Nr 44/2, pp. 143-154.

- Sułkowski, Ł. (2001), “Czy jest możliwe kształtowanie kultury organizacyjnej?” *Organizacja i Kierowanie*, Nr 4, pp. 99-110.
- Sułkowski, Ł. (2020), *Kultura organizacyjna od podstaw*, Wydawnictwo Społecznej Akademii Nauk, Łódź.
- Svyantek, D.J., DeShon, R.P. (1993), “Organisational attractors: a chaos theory explanation of why cultural change efforts often fail”, *Public Administration Quarterly*, 17(3), pp. 339-355.
- Sztajerska, D., Bogdański, M. (2021), “Improvement of maintenance process in a coal mine – case study”, *Scientific Papers of Silesian University of Technology – Organization and Management Series*, Issue No. 150, pp. 279-298.
- Tohidi, H., Jabbari, M.M. (2012), “Organisational culture and leadership”, *Procesdia – Social and behavioral sciences*, 31, pp. 856-860.
- Womack, J.P., Jones, D.T., Roos, D. (1990), *The machine that changed the world*, Free Press, New York, NY.
- Womack, J.P., Jones, D.T. (1996), *Lean Thinking: Banish Waste and Create Wealth in Your Corporation*, Simon&Schuster, New York, NY.
- Wojtowicz, A. (2004), “Istota i modele kultury organizacyjnej – przegląd koncepcji”, *Zeszyty Naukowe Małopolskiej Wyższej Szkoły Ekonomicznej w Tarnowie*, Nr 5, pp. 159-171.
- Wronka-Pośpiech, M., Frączkiewicz-Wronka, A., Tkacz, M. (2016), “Percepcja ryzyka w działalności przedsiębiorstw społecznych – badanie porównawcze Polska-Hiszpania”, *Ekonomia społeczna*, Nr 1, pp. 7-26.
- Wszedorowska, J. (2015), “Relacje między kompetencjami przywódczymi a kulturą organizacyjną”, *Zeszyty Naukowe. Organizacja i Zarządzanie / Politechnika Łódzka*, pp. 269-279.