

Kucharska, W., Bedford, D.A.D. (2020), "Learning from Mistakes. A Study on Maturity and Adaptability to Change", Proceedings of the 35th IBIMA Conference: Education Excellence and Innovation Management: A 2025 Vision to Sustain Economic Development during Global Challenges, Sevilla, Spain, April, pp. 1263-1271.

Learning from mistakes.

A study on maturity and adaptability to change

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Abstract

Learning culture matters; company culture must support continuous improvement. Organizational learning is a process of identifying and modifying mistakes that result from interactions between co-workers. The article aims to explore the learning power via errors, using the level of organizational maturity as a moderator. Companies need to know how organizational maturity may moderate the adaptability to change via the acceptance of their mistakes. Based on 380 samples gathered from November to December 2019 among Polish employees working in knowledge-driven organizations across various industries, and analyzing the data using PROCESS software, the authors established that employees working in young organizations adapt to changes better than those who work in mature companies. On the other hand, the acceptance of mistakes by mature organizations significantly improves their adaptability to change. The study shows that mature organizations achieve better change adaptability than young organizations when accepting mistakes. The conclusion is that mature organizations may adapt to changes only if they accept errors (learn from their errors). Concerning young organizations' mistakes, their effect on adaptability to change is not significant.

Keywords: constant learning culture, hierarchy, organizational development, mistakes acceptance, change adaptability, organizational learning

Introduction

Peter Senge (2006) claimed that if somebody wants to learn, then he must be ready to be wrong. However, the fact that organizations want to learn does not mean that they accept that their employees make mistakes. It is one of the biggest paradoxes of "learning organizations today." Inspired by this paradox, the authors decided to investigate the learning from errors by organizations in the light of their maturity level. Does experience matter for the acceptance of mistakes and adaptability to change?

The value of learning via mistakes has been lately highlighted by Kucharska and Bedford (2019), but also in earlier works by Anselmann and Mulder (2018), and Debowski, (2001). It is worth noticing that organizational learning is even defined as a process of identifying and modifying mistakes resulting from interactions between co-workers (Argyris and Schön, 1997). Mistakes are controversial. They are invaluable for those who want to improve, but their effectiveness in the learning process is subject to discussion. Some lessons learned from mistakes can be very costly. It is probably the reason why they are not welcome by organizations. This study aims to compare the influence of acceptance of mistakes on the adaptability to change in conditions of low, medium, and high maturity level.

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If organizations want to grow, they need to learn and change. Change is not only a major characteristic of today's business environment, but it is also a chief result of learning. That is why making mistakes can foster the adaptability to change. When we learn, we change the perception of things by knowing more. It works for individuals and organizations. Organizational learning and change are interconnected (Argyris, 1982; Watad, 2019). Nadim and Singh (2019) pointed out that change as a phenomenon is tied with continuous learning. Moreover, Garvin et al. (2008) stressed that being a learning organization characterizes openness to make changes when needed, and errors are the essence of organizational learning (Zappa and Robins, 2016). Hence it is good to know how strongly mistakes acceptance fosters change adaptability.

The maturity level combined with experience is expected to be an advantage of any organization involved in business projects (Mullaly, 2014). The latest studies (e.g., Kumar and Shushil, 2020; Marques et al., 2019; Andreasen and Gammelgaard, 2018; Grossman, 2018; Johansson et al., 2019; Muszynska, 2018; Uskarcic and Demirors, 2017) and the majority of existing organizational maturity models (e.g., Paulk, 1993; Fischer, 2004; Harmon, 2004; Rosemann and de Bruin, 2005; Gunsberg et al., 2018) focus on communication, knowledge management, technology development, and processes which, if constantly optimized, enable mature organizations to grow. The current study focuses on mistakes as a source of new knowledge, which is desired if an organization wants to learn, improve, and grow. The key question of the study is whether the maturity level moderates the ability to adapt to changes driven by the acceptance of mistakes? The study aims to address this problem.

Conceptual framework

Company culture matters for learning (Rebelo and Gomes, 2011; 2017) and knowledge sharing (Kucharska, & Bedford, 2019). Knowledge creation is an intense process of human imagination, finding solutions, and learning from errors (Jakubik, 2008). Argyris and Schön (1997), Debowski (2001), Senge (2006), Garvin et al. (2008), and Rebelo and Gomes (2011; 2017) also highlighted that a learning culture must include the acceptance of mistakes to enable people to leave their comfort zone and solve problems by developing new approaches. Hind and Koenigsberger (2008) and Thomas and Brown (2011) also followed this line of thinking and stressed that a higher level of acceptance of mistakes fosters a learning process reflected in the level of the adoption of the inevitable change. Organizational maturity and agility promote adaptability (Gunsberg, 2018). Mainga (2017). Kucharska and Bedford (2020) stressed that constant learning culture must be composed not only of the learning environment but must also accept mistakes. Hence, based on the above the following hypothesis has been formulated:

H1: Maturity level moderates the relationship between the acceptance of mistakes and adaptability to change.

The figure 1 below visualizes the theoretical assumptions.

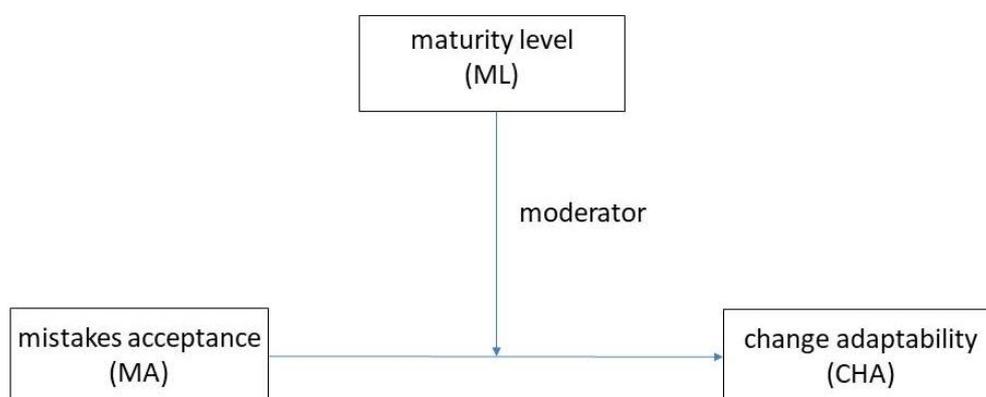


Fig 1. Theoretical framework

Method

The study used a sample consisted of 380 cases. Respondents were recruited among Polish employees working in knowledge-driven organizations across industries, via a research panel recruited by answeo.com. (Appendix A). The majority of the sample is represented by men (50%) aged 25-34 (43%), working in small and medium companies (56%), in the IT (30%), Sales (12%), Finance (11%), and Production (9%) industry. Data were collected from November to December 2019. To enable the measurement of the level of mistake acceptance and change adaptability, respondents answered questions using a 7-point Likert scales that came from Kucharska & Bedford's (2020) earlier study. After the positive sample and scales assessment, composite variables were created to analyze all the above-hypothesized relationships using the regression PROCESS procedure for SPSS version 3.4 (Hayes, 2018). The maturity level was measured by a declaration to be low, medium, and high at the time of its existence.

Results

The results indicate that young organizations are characterized by high adaptability to change, even with the low level of mistake acceptance. Whereas for organizations with medium and high levels of maturity, the change adaptability grows with the mistake acceptance. However, this effect is significant only for high-mature organizations ($p=.0111$). In the case of young organizations and organizations with medium maturity levels, the influence of the mistake acceptance on change adaptability is not statistically significant (for more information go to Appendix 1). Figure 2 below illustrates all the above-described effects. Table 1 presents hypothesis verification, and Appendix 1 shows all PROCESS software output details.

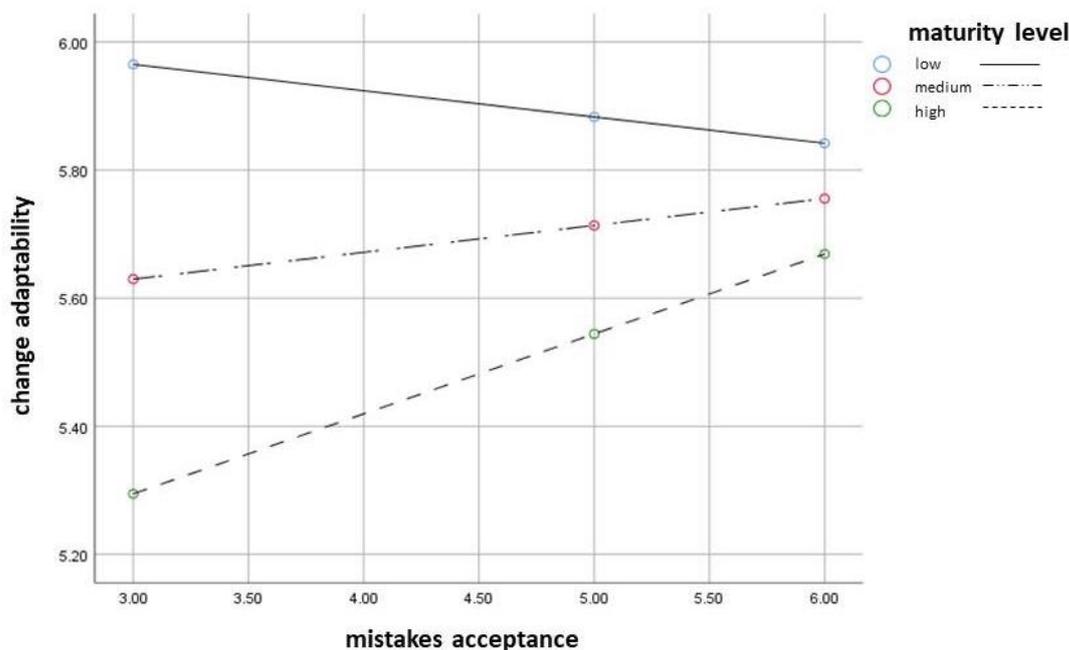


Fig 2. Moderated effect of hierarchy on change adaptability driven by mistakes acceptance
Note: Level of confidence for all confidence intervals in output: 95.0000; effects not standardized.

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Table 1: Results

Hypothesis	β	t-value	p-value	verification	
H1	.0829	2.34	.0196	supported	
Test(s) of highest order unconditional interaction(s):					
	R2-chng	F	df1	df2	p
X*W	.0139	5.4982	1.0000	376.0000	.0196
	coeffi	se	t	p	LLCI ULCI
Int_1:	.0829	.0354	2.3448	.0196	.0134 .1525
Int_1:	mistakes acceptance (MA) x maturity level (ML)				

Note: Level of confidence for all confidence intervals in output: 95.0000; effects not standardized. PROCESS Procedure for SPSS Version 3.4 output details available in Appendix 1.

Discussion

Referring to Paulk et al.'s (1993) and Terouhid and Ries's (2016) model, optimization is the highest level of maturity that leads to a continuous improvement of processes. Hence, the above findings perfectly respond to these models. Mature organizations develop through constant improvement and, therefore, constant learning from mistakes is a great way to optimize and change. Terouhid and Ries (2016) stressed that organizational maturity concentrates on organizational processes, and organizations with top maturity level may achieve sustainability and leadership. Therefore, it seems vital that mature organizations that want to learn from mistakes need to develop appropriate mechanisms to do so. De Boer et al. (2015) also emphasized that mature organizations usually operate within a complex environment and continuous improvement of operations is the best method for them to grow. A complex environment requires complex monitoring. In light of what has been said, new errors may be treated as a valuable symptom of change. Namely, in a well-known business environment of a given branch or industry, each new error may be a warning signal that something has changed or is worthy of change. Farnese et al. (2019) stressed that authentic leaders could foster policies and practices to manage errors proactively.

Limitations & implications

One of the limitations of the current study is linking the measurement of a maturity level to the time of its existence. Kumar et al. (2013) proposed a more refined method which, if applied, could have led to more accurate results. Another limitation is the fact that learning from mistakes is a rather non-formal and, therefore, subconscious phenomenon. Consequently, the low R-sq=0.0486 obtained for the entire model does not surprise. Since the process is so specific, perhaps choosing a method different than "a self-report questionnaire" will be better for further exploration of this problem. Moreover, the findings demonstrate the importance of studies on the topic of mistake acceptance as vital for learning organizations and one which should be investigated in more depth. The results of this study are based on a Polish sample, therefore, additional national studies are needed. As Kucharska & Bedford (2019) noted, national culture is vital for knowledge sharing and job satisfaction.

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Practical implications

The most important practical implication from the presented study applies to mature organizations. The acceptance of mistakes allows them to adapt to changes more effectively. Hence, mature organizations need to create mechanisms that support learning from mistakes. As it was noted in the introduction section, errors are commonly perceived as a phenomenon that should be eliminated, and that is why employees often conceal their mistakes. Since everybody makes mistakes, and everybody covers them, it contributes to creating a sort of illusion. The findings of the study encourage mature organizations to "be mature" and develop internal mechanisms that will help them take advantage of the mistakes employees make to transform them through "lessons learned." Mistakes are the best source of new knowledge, which is important if we want to achieve better adaptability to change. The organizations with a low maturity level characterize a high level of change adaptability. It is because they develop mainly by the adaptation to the particular market rules and standards imposed by market leaders (mature organizations). If they want to win the market, they need to offer standards as a minimum and something above these standards. It is why mistakes acceptance gives them the opposite effect on mature organizations. The early stage of development is not a good time to learn via mistakes. It is better to learn by adaptation. It is opposite to mature enterprises. They can't develop by the adjustment to standards they create themselves. They can adapt to business environment changes via learning from mistakes. Summarizing, young organizations develop by adaptation, mature organizations learn from anomalies identified thanks to noted errors.

Conclusions

This article, similarly to Kucharska and Bedford (2020) and Kucharska (2020), exposes the paradox of ignoring mistakes by present-day "learning organizations." The findings show that mature organizations might adapt to changing environments significantly better when learning from mistakes. Also, if they do not accept mistakes, the observed adaptation level is low. It explains why mature (often big and with strong hierarchies) organizations are slower and less agile than non-hierarchical organizations. This study demonstrates that for young organizations to survive and advance in a particular industry, they must adapt quickly, and therefore they must not allow for mistakes to happen. On the other hand, mature organizations, a long time in the game, can only grow by learning from their errors because they set business standards for the whole branch or even industry. The most significant player always dictates terms to its followers. Of course, both young and mature organizations need to adapt to constant technological, societal, cultural, political, and other environmental changes if they want to grow. However, in the case of mature and experienced organizations, new errors may be a valuable symptom that in a well-known business branch or industry, something has changed or is worth changing.



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References

- Andreasen, P.H. and Gammelgaard, B. (2018), "Change within purchasing and supply management organisations – Assessing the claims from maturity models", *Journal of Purchasing and Supply Management*, 24(2), 151-163. <https://doi.org/10.1016/j.pursup.2017.11.005>
- Anselmann, V. and Mulder, R. (2018), "Learning from errors in insurance companies", *Journal of Management Development*, 37(2), 138-148. <https://doi.org/10.1108/JMD-06-2017-0211>
- Argyris, C. (1982), "How learning and reasoning processes affect organizational change in Goodman, P.S. et al. (Eds), *Change in Organizations*. Jossey Bass, CA: San Francisco, 47-86.
- Argyris, C. and Schön, D.A. (1997), "Organizational learning: a theory of action perspective", *Reis*, 77/78, 345-348. <https://doi.org/10.2307/40183951>
- de Boer, F., Müller, C. and Caten, C. (2015), "Assessment model for organizational business process maturity with a focus on BPM governance practices", *Business Process Management Journal*, 21(4), 908-927. <https://doi.org/10.1108/BPMJ-11-2014-0109>
- Debowski, S. (2001), "Training Performance Raters Through Error-based Experiential Learning", *Journal of Management & Organization*, 7(1), 1-12.
- Farnese, M., Zaghini, F., Caruso, R., Fida, R., Romagnoli, M. and Sili, A. (2019), "Managing care errors in the wards: The contribution of authentic leadership and error management culture", *Leadership and Organization Development Journal*, 40(1), 17-30.
- Fischer, D.M. (2004), "The business process maturity model: a practical approach for identifying opportunities for optimization", available at: www.bpmg.orgwww.bptrends.com/publicationfiles/10-04%20ART%20BP%20Maturity%20Model%20-%20Fisher.pdf [accessed December 15, 2019].
- Garvin, D. A., Edmondson, A. C. and Gino, F. (2008), "Is yours a learning organization?", *Harvard Business Review*, 86(3), 109.
- Grossman, R.L. (2018), "A framework for evaluating the analytic maturity of an organization", *International Journal of Information Management*, 38, 1, 45-51. <https://doi.org/10.1016/j.ijinfomgt.2017.08.005>
- Gunsberg, D., Callow, B., Ryan, B., Suthers, J., Baker, P. and Richardson, J. (2018), "Applying an organisational agility maturity model", *Journal of Organizational Change Management*, 31(6), 1315-1343. <https://doi.org/10.1108/JOCM-10-2017-0398>
- Harmon, P. (2004), "Evaluating an organization's business process maturity", *Business Process Trends Newsletter*, 2(3), 1-11.
- Hayes, A. (2018), *Introduction to mediation, moderation and conditional process analysis: A regression-based approach*. New York, NY: Guilford Press.
- Hind, M. and Koenigsberger, J. (2008), "Culture and commitment: the key to the creation of an action learning organization", *Action Learning: Research and Practice*, 4(1), 87-94. <https://doi.org/10.1080/14767330701233939>



Kucharska, W., Bedford, D.A.D. (2020), "Learning from Mistakes. A Study on Maturity and Adaptability to Change", Proceedings of the 35th IBIMA Conference: Education Excellence and Innovation Management: A 2025 Vision to Sustain Economic Development during Global Challenges, Sevilla, Spain, April, pp. 1263-1271.

Jakubik, M. (2008), "Experiencing collaborative knowledge creation processes", *The Learning Organization*, 15(1), 5–25. <https://doi.org/10.1108/09696470810842475>

Johansson, C., Grandien, Ch. and Strandh, K. (2019), "Roadmap for a communication maturity index for organizations—Theorizing, analyzing and developing communication value", *Public Relations Review*, 45(4), 101791. <https://doi.org/10.1016/j.pubrev.2019.05.012>

Kucharska, W. (2020a), "The Power of Mistakes: Constant Learning Culture and Technology", GUT FME Working Papers Series A, No 9/2020(1). Gdansk (Poland): Gdansk University of Technology, Faculty of Management and Economics.

Kucharska, W. and Bedford, D. A. D. (2019a), „Knowledge Sharing and Organizational Culture Dimensions: Does Job Satisfaction Matter?“, *Electronic Journal of Knowledge Management*, 17(1), 1-18.

Kucharska, W. and Bedford, D. A. D. (2020b), „Love your mistakes!—They help you adapt to change. How do knowledge, collaboration, and learning culture foster organizational intelligence?“, *Journal of Organizational Change Management*, <https://doi.org/10.1108/JOCM-02-2020-0052> (in press).

Kumar, U., Parida, A., Duffuaa, S., Macchi, M. and Fumagalli, L. (2013), „A maintenance maturity assessment method for the manufacturing industry“, *Journal of Quality in Maintenance Engineering*, 19(3), 295-315. <https://doi.org/10.1108/JQME-05-2013-0027>

Mainga, W. (2017), „Examining project learning, project management competencies, and project efficiency in project-based firms (PBFs)“, *International Journal of Managing Projects in Business*, 10(3), 454-504. <https://doi.org/10.1108/IJMPB-04-2016-0035>

Muszynska, K. (2018), „Communication maturity model for organizations realizing EU projects“, *Procedia Computer Science*, 126, 2184–2193.

Marques, J., La Falce, J., Marques, F., De Muylder, C. and Silva, J. (2019), „The relationship between organizational commitment, knowledge transfer and knowledge management maturity“, *Journal of Knowledge Management*, 23(3), 489-507.

Mullaly, M. (2014), „If maturity is the answer, then exactly what was the question?“, *International Journal of Managing Projects in Business*, 7(2), 169-185. <https://doi.org/10.1108/IJMPB-09-2013-004>

Nadim, A. and Singh, P. (2019), „Leading change for success: embracing resistance“, *European Business Review*, 31(4), 512-523. <https://doi.org/10.1108/EBR-06-2018-0119>

Paulk, M.C., Curtis, B., Chrissis, M.B. and Weber, C.V. (1993), „Capability maturity model, version 1.1“, *Software*, IEEE, 10(4), 18-27.

Rebelo, T. and Gomes, A.D. (2011), *The OLC questionnaire: a measure to assess an organization's cultural orientation towards learning*. In Mesquita, A. (Ed.) *Technology for Creativity and Innovation: Tools, Techniques and Applications*. Information Science References—Hershey, PA: IGI Global, 216–236.

Rebelo, T. and Gomes, A.D. (2017), „Is organizational learning culture a good bet? An analysis of its impact on organizational profitability and customer satisfaction“, *Academia Revista*

Kucharska, W., Bedford, D.A.D. (2020), "Learning from Mistakes. A Study on Maturity and Adaptability to Change", Proceedings of the 35th IBIMA Conference: Education Excellence and Innovation Management: A 2025 Vision to Sustain Economic Development during Global Challenges, Sevilla, Spain, April, pp. 1263-1271.

Latinoamericana de Administración, 30(3), 328–343. <https://doi.org/10.1108/ARLA-10-2015-0275>

Rosemann, M. and de Bruin, T. (2005), "Towards a business process maturity model", European Congress on Information Systems, Regensburg.

Senge, P. M. (2006), *The Fifth discipline*. The Art & Practice of the Learning Organization, NY: Crown Business.

Terouhid, S. and Ries, R. (2016), „Organizational sustainability excellence of construction firms – a framework”, *Journal of Modelling in Management*, 11(4), 911-931. <https://doi.org/10.1108/JM2-06-2014-0055>

Uskarci, A. and Demirirs, O. (2017), „Do staged maturity models result in organization-wide continuous process improvement? Insight from employees”, *Computer Standards & Interfaces*, 52, 25-40. <https://doi.org/10.1016/j.csi.2017.01.008>

Zappa, P. and Robins, G. (2016), „Organizational learning across multi-level networks”, *Social Networks*, 44, 295-306. <https://doi.org/10.1016/j.socnet.2015.03.003>

Appendix 1

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***** PROCESS Procedure for SPSS Version 3.4 *****
Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
Documentation available in Hayes (2018). www.guilford.com/p/hayes3
*****
```

Model : 1
 Y : CHA
 X : MA
 W : Maturity

Sample
 Size: 380

OUTCOME VARIABLE:
 CHA

Model Summary

	R	R-sq	MSE	F	df1	df2	p
Model	.2204	.0486	1.1595	6.3968	3.0000	376.0000	.0003

Model

	coeff	se	t	p	LLCI	ULCI
constant	6.6723	.3976	16.7819	.0000	5.8905	7.4540
MA	-.1240	.0805	-1.5402	.1244	-.2822	.0343
Maturity	-.5841	.1743	-3.3508	.0009	-.9269	-.2414
Int_1	.0829	.0354	2.3448	.0196	.0134	.1525

Product terms key:
 Int_1 : MA x Maturity

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0139	5.4982	1.0000	376.0000	.0196

 Focal predict: MA (X)
 Mod var: Maturity (W)
 Conditional effects of the focal predictor at values of the moderator(s):

Maturity	Effect	se	t	p	LLCI	ULCI
low	-.0410	.0511	-.8022	.4229	-.1416	.0595
medium	.0419	.0354	1.1837	.2373	-.0277	.1116

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high          .1249      .0489      2.5508      .0111      .0286      .2211
***** ANALYSIS NOTES AND ERRORS *****
Level of confidence for all confidence intervals in output: 95.0000
W values in conditional tables are the 16th, 50th, and 84th percentiles.
```