

BizDevOps: A Systematic Literature Review

Seminar paper

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Abstract

The approach of BizDevOps has raised awareness in the recent years due to its benefits in the changing markets influenced by the Digital Transformation. In interdisciplinary teams, employees from the fields of Business (Biz), Development (Dev) and Operations (Ops) work together following agile principles. The present paper reviews 13 selected papers regarding the topic of BizDevOps and provides a State-of-the-Art overview of BizDevOps, as well as its success factors when being implemented at a company. The results are clustered into the categories of Context and Success Factors, each containing 3 subcategories (Context: Digital Transformation, Definitions, Benefits; Success Factors: Organizational, Cultural and Technical). The paper points out the relevance of BizDevOps for companies and suggests further research in developing measurements to compare traditional approaches with the BizDevOps approach.

Keywords: BizDevOps, Digital Transformation

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1 Introduction

In 2019, companies are facing challenging times with intensifying markets and disrupting technologies making old business models obsolete (Gruhn, 2016). The Digital Transformation, described to be “the process by which a company implements these changes {of convergence of technology and products, less predictable customer demand, shortened product lifecycles and price transparency}” (DeMark & Harcourt, 2004, p. 9) requires companies to react and re-structure their products tailored to the customers’ needs and demands (Gruhn, 2016). But while Startups are able to solely focus on their customers’ demands due to their strict centralisation around innovative Information Technology, established companies contrariwise often struggle with releasing innovative products due to strict regulations and isolating structures (Gruhn, 2016).

One opportunity to overcome these barriers, even as an established company, is described in the BizDevOps approach (Schrader & Droegehorn, 2018). This is a rather new concept aiming to bring together experts from the fields of Business (Biz), Development (Dev) and Operations (Ops) (Fleischmann, Oppl, Schmidt, & Stary, 2018) to develop innovative, user-centric products with an increased speed. And even though large-sized companies like ING already use the approach to have a competitive advantage (Huijgens, Spadini, Stevens, Visser, & Van Deursen, 2018), there has been very limited scientific research conducted so far.

Noticing a relevance in both theory and practice led to the research question to analyse the State-of-the-Art in BizDevOps. The paper aims to present an introduction into the BizDevOps approach and to condense the current findings creating value for Managers and Executives who are thinking about implementing this approach in their company.

The structure of this paper is as followed: First of all, background knowledge concerning the topic of DevOps will be provided. This is necessary as BizDevOps is mostly considered to be an advancement of DevOps. Building on that, the procedure of the literature approach including keyword research, choice of databases and forward-backward-research will be presented. Those within this procedure collected findings will be presented in chapter four, both from a quantitative and a qualitative perspective. In the fifth chapter, the beforementioned findings will be discussed, as well as areas for further research identified. This then leads to the final chapter in which a conclusion will be drawn.

2 Background

According to some authors, BizDevOps can be described as a consequence and advancement of the DevOps approach (Gruhn, 2016).

The DevOps approach describes the shared responsibility within the departments of Development (Dev) and Operations (Ops) for one complete service (Gruhn, 2016). Within the DevOps approach it is no longer the case that the development programming process of an application (Dev) and the deployment, and maintenance (Ops) are separated (Gruhn, 2016). The term DevOps was coined by Belgian IT consultant Patrick Debois, who organized a conference named DevOpsDays in 2009 – following that, the approach was henceforth understood under the term DevOps (Peschlow, 2016).

The approach was mainly introduced to reduce the development time and decrease the risk of bugs being found in a software after deployment (Schrader & Droegehorn, 2018). It made it also easier to react quickly when a new feature had to be implemented as the combined team became more flexible (Schrader & Droegehorn, 2018). Often automated continuous delivery and deployment of an application are described to be the foundation of DevOps (Kneuper, 2018). Those concepts started to get popular in the early 1990s and have been in application development since then (Kneuper, 2018).

However, Kneuper (Kneuper, 2018) argues that DevOps goes beyond simply optimizing deployment processes. The approach instead aims for a cooperative mindset in which both departments can generate continuously knowledge that overall improves the company’s abilities (Kneuper, 2018)

Regarding advancements of DevOps, the concepts of BizDevOps and DevSecOps have been introduced. The approach of DevSecOps focuses on the integration of IT Security (Sec) within the DevOps team. (Toesland, 2019).

3 Literature Review

The process of the systematic literature research included three steps. First of all, the relevant keywords and search strings had to be identified. In parallel the choice of databases was made. The before identified keywords were then entered into the databases and the resulting papers were analysed. Referrals within relevant papers were added to the pool of relevant literature.

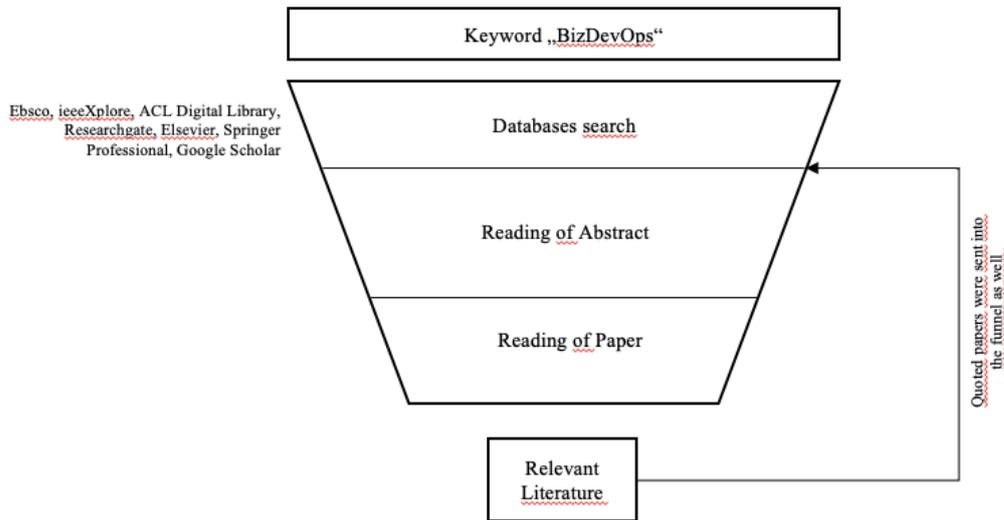


Figure 1: Review method and selection process

3.1 Keywords and search string

Prior to conducting the first round of research the keywords had to be identified. As a starting point, “BizDevOps” was chosen. However, after reading through the first papers it became clear that the term is highly related to the fields of End-User-Software-Programming and sometimes described as DevOps 2.0. In order to ensure that the most relevant articles were analysed for this paper, another round of database research based on the keywords “DevOps AND 2.0” as well as “End-User Software Programming” was conducted. However, the results were not relevant for the field of BizDevOps. This is why the literature mentioned and analysed in this paper originates in the search term of BizDevOps.

3.2 Databases

The decision process regarding databases led to the choice of Ebsco, IEEE Xplore and ACL Digital Library. As the topic of BizDevOps connects both fields of Economics and Information Technology the chosen databases should reflect both aspects equally. That is why the abovementioned databases were chosen next to their significance. However, during the first rounds of research the results in these databases were very limited (only up to 6 papers). This is why additional research sources were added. The databases Springer Professional, Researchgate and Elsevier were searched through. Google Scholar was used as a final check to include until then unrecognized papers.

3.3 Filtering and iterative research

The papers resulting from the research in the databases were read and classified according to their relevance. Since there was a limited amount of papers (<50) each abstract was fully read and then according to that the paper was either fully read (abstract = directly linked to BizDevOps) or skimmed through (abstract = indirectly linked to BizDevOps e.g. the context). The papers themselves were then scanned for references and links to additional research that hasn't been included so far, e.g. case studies from consulting firms as examples from practice. This was done in order to ensure that no highly relevant document had been missed. By doing this, two more papers from practice were added. After a few iterations of analysing the quoted papers in the different papers, no new paper could be added which marked the end of the research phase of this paper. In total 13 relevant papers were found.

4 Findings

4.1 Overview

The literature found was analysed from both a quantitative and a qualitative perspective. First of all, the papers were clustered according to their date of publication. Following that, each paper was analysed in detail.

All of the analysed papers are very recent and not older than five years. This is not surprising taking under consideration that BizDevOps itself is an advance of DevOps which has only raised increasing awareness in 2009 as described within chapter two. Furthermore, the article by Gruhn & Schäfer (2015), which has been cited as a definition of BizDevOps in numerous articles has only been published in 2015. The figure below shows the publishing year of the papers and the increase of papers shows the increase in significance concerning the topic of BizDevOps.

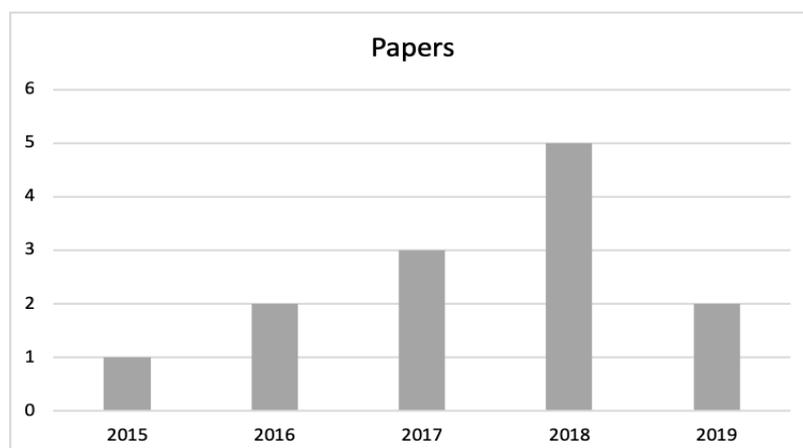


Figure 2: Papers published per year

Each paper resulting of the literature review was in-depth read. Following up on that, the topics covered were synthesized and then clustered into two main categories: Context and Success factors. These categories were then further developed into three subcategories each, based on the content of the papers. The category Context includes the subcategories Digital Transformation, Definitions and Benefits. The category Success Factors are split into Organizational, Technical and Cultural. The following table shows the coverage of categories per author. As there has been very limited research, many authors cover more than one subcategory within their research.

Author	Year	Context			Success Factors		
		Digital Transformation	Definitions	Benefits	Organizational	Technical	Cultural
Aihara, Satoru et al.	2017	x	x	x	x		x
Chasioti, Kleopatra	2019				x		
Drews, Paul et al.	2017					x	
Fitzgerald, Brian Stol, Klaas-Jan	2017		x				
Fleischmann, Albert et al.	2018		x				x
Forbrig, Peter Dittmar, Anke	2018		x	x			
Gruhn, Volker	2016	x	x		x		
Gruhn, Volker Schäfer, Clemens	2015	x	x			x	
Huijgens, Hennie et al.	2018		x				
Panse, Ajay Kulkarni, Vinay	2016			x			
Schrader, Isabell Droegehorn, Olaf	2018		x	x	x		x
Urbach, Nils et al.	2018	x	x				
Wiedemann, Anna et al.	2019		x	x			

4.2 Context

4.2.1 Digital Transformation

Throughout the literature, BizDevOps is often mentioned as part of a potential solution to the changing demands and requirements of the Digital Transformation (Aihara et al., 2017; Gruhn, 2016). It is important to point out that also here it does not exist one clear definition that the authors agree on – the definition of Digital Transformation is mostly defined by the context in which Digital Transformation is seen. With regards to the influence of Digital Transformation on companies and their IT infrastructure, Urbach et al. (2019) notice a shift concerning the role of Information Technology departments. From being a pure service provider towards being the main driver and enabler for innovation, IT departments have to adapt to be able to fulfil the new requests coming along with their new role – often leading to a more connected IT in the company (Urbach et al., 2019).

The challenges of Digital Transformation for companies can be divided into two major areas: *demands for increased development speed & delivery* and *demands for increased user centricity of the product itself*. Later on, in this paper, it will be explained how exactly BizDevOps is expected to overcome these challenges.

Aihara et al. (2017) describe how companies today are required to deliver their products to the market within continuously shortening development cycles. This is due to an intensified market where product lifecycles are decreasing, causing companies to risk putting an outdated product on the market when the development process has taken too long (Aihara et al., 2017).

Gruhn (2016) points out that it is essential for companies to in-depth understand their customers' demands and requirements to build up strong, long-term relationships. Companies have to improve the whole customer experience on every touchpoint in order to stay competitive (Gruhn, 2016). But in the sense of building the right product, the complexity even increases when looking at potential competitors of companies. Within the era of Digital Transformation, each company or start-up, no matter the size or large-scale background, is enabled by technology to build a product that might satisfy the customers' needs better (Gruhn & Schäfer, 2015). This leads to a continuous disruption within markets, resulting in a difficulty for companies to structure their business model around their products (Gruhn & Schäfer, 2015).

4.2.2 Definitions

Although there is a shared understanding of the term BizDevOps (mostly derived from the abbreviation of Business, Development and Operations itself) the definitions throughout the literature vary.

In one of the earliest papers from Gruhn and Schäfer (2015) BizDevOps is described as an approach that aims to overcome the differences between departments of IT and business within a company. A problem that so far has, according to them, not been addressed by approaches like End User Software Programming, DevOps and Agile Principles (Gruhn & Schäfer, 2015). The focus of their presented approach lies within the enablement of employees with a background in business to become qualified enough in the field of programming to conduct some software development by themselves (Gruhn & Schäfer, 2015). Following Gruhn and Schäfer's understanding of BizDevOps certain business units should be able to perform as a so-called shadow IT working in a designated low code environment which is required here (Gruhn & Schäfer, 2015). The then following implementation within the IT landscape as well as the quality assurance is however still done by responsible Information Technology departments. This definition is later on built on by Forbrig & Dittmar (2019).

Later publications often emphasize the organizational aspect of establishing an interdisciplinary team from the fields of Business and Information Technology as a central aspect of BizDevOps (Fleischmann et al., 2018). They do not contradict the beforementioned first definition of Gruhn and Schäfer (quite on

the contrary is their work often quoted as definition) but refine it by not only upskilling a department to overcome the gap but bringing together the different departments also physically as one team. This focus on the interdisciplinary team can be traced back to an article Gruhn published one year after his first publication on BizDevOps (Gruhn, 2016). Within this more on the organizational side focused BizDevOps approach, the idea is to have one team (consisting of team members from different departments) being responsible for a product or parts of it from the idea creation till the delivery to the client as well as the running of the product after the development (Gruhn, 2016; Huijgens et al., 2018; Schrader & Droegehorn, 2018; Urbach et al., 2019).

There are a few publications (Forbrig, 2018; Wiedemann, Wiesche, Gewalt, & Krcmar, 2019) pointing out a difference between BizDev and BizDevOps referring to Fitzgerald and Stol, who claim to have coined the term BizDev, even though the term BizDevOps itself existed earlier (Gruhn & Schäfer, 2015). While amongst others, Gruhn (2016) presents BizDevOps to be an advancement of DevOps, Fitzgerald and Stol (2017) differentiate by describing BizDev as a standalone collaboration and integration of business and development departments with the focus of continuous delivery. This then complements DevOps to achieve continuous innovation (Fitzgerald & Stol, 2017). However, quoting Fitzgerald and Stol, Wiedemann et al. (2019) come to the same conclusion of the idea of one interdisciplinary team for the term of BizDevOps.

4.2.3 Benefits

It is very likely that the BizDevOps approach has raised increased awareness during the past months due to its benefits for companies in the context of digitalization and digital transformation. Therefore those benefits can be clustered into two categories, similar to the beforementioned challenges with regards to Digital Transformation: *Improvement of development speed & delivery* and *increased user centricity of the product itself*.

The benefit of *increased speed of development* is mentioned by Aihara et al. (2017) who describe it as a necessity to stay competitive in the intensified markets of today. According to them, the process of enabling the increase of speed – including cooperation between Biz and Dev to build the product, Ops then to test the product and Biz to analyse the feedback – benefits as well the approach of having one unified team which is more likely to produce a valuable output (2017). In a BizDevOps team, there is also a higher level of responsibility in the team (Wiedemann et al., 2019) which requires each team member to act in a self-organized way while pursuing an overall team objective (Aihara et al., 2017). This, together with the idea that responsibilities are shared and not strictly allocated to a single person (Schrader & Droegehorn, 2018) then also results in a faster delivery of products. The benefit of improvement of development speed and delivery therefore also includes the increased flexibility and the ability to quickly adapt to changes and requirements in the market (Panse & Kulkarni, 2016; Schrader & Droegehorn, 2018). Furthermore the BizDevOps approach can also deliver the framework to quickly decide on a strategic and operational level (Panse & Kulkarni, 2016) which is crucial to an increased delivery and deploy of the software products (Panse & Kulkarni, 2016) and the with it coming requirement for a flexible and quick adaption to the market needs (Schrader & Droegehorn, 2018)

The BizDevOps approach is also seen as an enabler to create *more user-centric products* (Huijgens et al., 2018) This is due to the user becoming part of the planning process in the form of the Biz (Wiedemann et al., 2019) and the Product Owner (PO) which acts as a bridge between business and IT Requirements (Wiedemann et al., 2019). Furthermore, there is an iterative loop in which Prototypes are created by Biz and Dev, customer feedback is gathered by Ops and then analysed by Biz to ensure that the product satisfies the customers' demands (Aihara et al., 2017). As Forbrig and Dittmar (2019) point out, it is possible to integrate principles of Human-Centered-Design (HCD) even further while following the BizDevOps approach. They see a leverage in combining a Subject-Oriented Business-Process Modelling (S-BPM) approach with the existing BizDevOps approach in achieving so (Forbrig & Dittmar, 2019). Furthermore Schrader & Droegehorn (2018) mention, that within a BizDevOps team the power

of innovation centred in the IT department can be restored and therefore have a bigger impact on the final, innovative product.

4.3 Success factors

Throughout the literature review, several success factors, which are relevant for the implementation and use of the BizDevOps approach were identified. The three subcategories organizational success factors, technical success factors and cultural success factors condense these findings.

4.3.1 Organizational success factors

The BizDevOps approach is, as described in chapter 4.1.1, often mentioned in the context of a Digital Transformation within a company. In this context, authors identified organizational success factors linked to the performance of a BizDevOps team and the therefore resulting performance of the products built. Next to the definitions, this is the most discussed topic within the papers. This may be due to the management value created by presenting a new organizational model that can be implemented directly. Throughout the research, four organizational success factors were identified.

The first success factor is that, as beforementioned, successful BizDevOps teams need an interdisciplinary professional background. This may sound simple but it is probably the most relevant organizational success factor as this, in practice, means, that there has to be a re-structuring of the common team/department-setup (Schrader & Droegehorn, 2018) While many companies still work in a rather isolated, silo-like department structure, the BizDevOps approach requires companies to break down the silos and foster collaboration (Schrader & Droegehorn, 2018) Agile methods such as SCRUM (Aihara et al., 2017) or the use of a Kanban board (Schrader & Droegehorn, 2018) are described to support this transformation. Forbrig (2018) adds that, in order to correctly specify needs and requirements over the difference professional expertise's, user stories, use cases and use cases slides as well as scenarios and storytelling can improve the daily workflow. In order to ensure that the first projects within this restructuring are well planned, it makes sense to map out at which point which expertise is in which capacities needed. A model by Chasioti (2019) provides a distinct framework for the involvement of each expertise mapped to the status of the project. The model is split into three overall steps: Explore & identify, develop & operate and validate business value. These three steps are linked in an iterative circle and subdivided in up to 5 subtasks e.g. prototyping, deployment and measuring business value. For each step, it is proposed how much each expertise is involved. This leverages the organizational planning of budget, employees and timeframe, so that first BizDevOps pilot project can be implemented easily.

In addition to breaking down the silos, Aihara et al. (2017) propose as a second success factor a split-up system, in which subdivided teams develop parallel different features of a product. This means that one BizDevOps team is responsible for a certain feature, but more BizDevOps teams are involved in the whole creation process of the final holistic product. This can reduce the development time from five years to one year therefore reducing the risk that quick changes of the environment can cause a shift in the requirements of a product while this is still being develop based on an outdated idea. However, splitting up the development of a product can cause mistakes due to some systems being updated regularly. In order to monitor those changes and to be aware of potential risks, they present their "autonomously aligned concept model" (Aihara et al., 2017, p. 4). This model enables organizations to quickly detect nonconformities, duplications, discrepancies and complex structures within the split-up development system. It does so by providing a holistic overview of the different teams and outside departments involved, mapping out structures and improving the communication towards being more effective.

The third success factor that is relevant for the success of BizDevOps team is the organizational freedom. This means that the BizDevOps teams are not bound by limiting, existing structures and benefit from a higher degree of autonomy (Schrader & Droegehorn, 2018) They should also be in charge of their own

hierarchical structure which is often very flat (Schrader & Droegehorn, 2018), giving each team member the responsibility of being self-organized (Aihara et al., 2017) as described in chapter 4.1.3. However, Gruhn (2016) points out, that there is a thin line between giving the BizDevOps team the organizational freedom to properly develop products and isolating it from the rest of the company. Teams with old structures and legacy systems as well as startup-like BizDevOps teams mutually benefit from the exchange with each other. This is especially relevant when the newly developed product is to be integrated within the old systems as well as when the idea is to implement the BizDevOps approach into the whole company (Gruhn, 2016). Therefore it is crucial to ensure that the exchange is still taking place, no matter the organizational separation (Gruhn, 2016).

Closing the organizational success factors, the fourth success factor is a physical team space. Gruhn (2016) sees a leverage in having a so-called “interaction room” (Gruhn, 2016, p. 90). The interaction room is a physical space within a company which the teams can use to visualize processes and the status of the project. It supports the communication within the team and helps to bridge the differing knowledge and cultural values of IT and Biz. The interaction room also works as a tool to keep the focus of the team on the key elements by making them tangible on walls (Gruhn, 2016).

4.3.2 Technical success factors

With regards to technical success factors, there has been very limited research in the existing literature focusing on BizDevOps. However, during the research for this literature review there were two papers found, one focusing on a platform that enables business departments to build applications (Gruhn & Schäfer, 2015) and one focusing on a new Enterprise Architecture Management (EAM) for an infrastructure where BizDevOps teams can work (Drews, Schirmer, Horlach, & Teka, 2017).

In their paper, Gruhn and Schäfer (2015) present a software platform that enables employees from the business department to participate directly in the development process of an application. This is conducted by building a detached interface where those applications can be built by the Biz part of the team. The there built applications are then transferred automatically into a deployable format which is controlled by the IT-part of the BizDevOps team. The quality assurance is done by the IT over a plugin that connects the Biz-Interface (called Sandbox) and the IT landscape. Consequently, they recommend using the BizDevOps approach in projects where the overall IT complexity is comparably low (Gruhn & Schäfer, 2015).

Drews et al. (Drews et al., 2017) identified several requirements for an EAM that is adapted to the needs of a BizDevOps based IT. This includes a higher autonomy for the operating team following along a flexible and interchangeable infrastructure. The ideal EAM for a BizDevOps based IT has a supporting role instead of a limiting enforcing one as it used to be in traditional legacy systems. They also identified that the main task is to enable development that works cross-team and cross-microservice while providing as much information as possible in order to ensure that strategic decisions are made based on facts (Drews et al., 2017).

4.3.3 Cultural success factors

As BizDevOps is, as described beforehand, based on an interdisciplinary team, there were some cultural success factors identified which are crucial in order to ensure a high-performance of the team. Throughout the literature review, three cultural success factors could be identified: A mutual understanding based on agile principles, an increased diversity and an open-to-failure-culture.

Having a team which consists of team members with very different values has already been identified as a challenge to create a mutual understanding in DevOps concepts (Aihara et al., 2017). Aihara et al. (2017) presume that this even increases once the team is scaled up to consist, next to Development and

Operations, another department with Business. They recommend SCRUM and the their included principles as a method to foster collaboration even if there a differentiating values within the team (Aihara et al., 2017).

Another cultural success factor linked to BizDevOps is the diversity within the team. As beforementioned, the general diversity of different departments already creates the need for a enforced mutual understanding, but according to Schrader & Droegehorn (2018), companies should go one step further with regards to diversity. Focusing on including different e.g. ages, skills, locations, seniority and genders can help to transfer and scale the mindset of BizDevOps within the company (Schrader & Droegehorn, 2018). Linked to that is Fleischmans (2018) description of the common problem of personal prioritization within the BizDevOps team. He describes a potential risk in having people in a BizDevOps team with a higher interest in their own department causing them to not work towards a unified solution benefiting every department. Fleischmann et al. (2018) therefore recommend to not only focus on diversity itself but also strategically place employees within a BizDevOps team who do not have the a “distinct self-interest” (Fleischmann et al., 2018, p. 155) in the final product.

Adding to the beforementioned two success factors, a failure-accepting mentality is another aspect to ensure better working realities in BizDevOps teams. While the shared responsibilities within the team already reduce the risk of employees blaming each other for failure (Schrader & Droegehorn, 2018), an open, failure-allowing culture results in producing rather small errors and opens up the space to quickly improve them within the next iteration, which saves development time due to fewer dependencies (Schrader & Droegehorn, 2018).

5 Discussion

5.1 Commonalities & Differences

Throughout this paper, it became clear that there are differing definitions of how BizDevOps is defined, mostly centred around the idea of having one interdisciplinary team. It is likely that the definition of BizDevOps will be refined within the next years and that this will be done mostly from practice as companies and agencies are already using this term, defining the approach for themselves. The cultural and organizational success factors independent of the authors were analysed to be very closely related. This is not surprising, as culture institutionalized should manifest itself in organizational structures and changes (Janićijević, 2013). But this also means that both aspects should be equally kept in mind and be planned once a company decides to start conducting first pilot projects. What has been striking is that the focus of the current research is on the organizational side of the implementation of BizDevOps, there were no differences found within this aspect. Contrary there has been very limited coverage of the technical success factors of BizDevOps so far. It is likely that the currently published papers focus on the enhancement of Biz to DevOps and therefore neglect the aspect of technical success factors and tools as they have been discussed intensively in papers regarding DevOps. In general, there has been (besides the definitory base) a very homogenous understanding of success factors and implications of BizDevOps, often linked to each other context wise and also by quoting other authors who have been conducting research in this field. This is likely to be traced back to the fact that there has been limited research so that researchers build on each other’s opinions to build up their background. The overall few results of the topic are likely to be traced back to the very recent invention of this approach. Compared to BizDevOps, the topic of DevOps has a significant larger coverage by authors which may indicate that within the next six years there will be an increase in papers published about the topic of BizDevOps.

5.2 Management value of the paper

This paper provides management value by presenting an introduction into the topic of BizDevOps which may help managers who haven't had touchpoints with it to get a first overview and understanding of the topic. It also summarizes success factors for the implementation and use of the BizDevOps approach which have not been synthesized together before. The paper can therefore be used to start mapping opportunities within the company towards the approach of BizDevOps to conduct first pilot projects.

5.3 Areas for further research

As identified, there has been limited research concerning the topic of BizDevOps. From what has been identified throughout this literature review, there are two major areas for further research – empirical scientific research concerning BizDevOps and research regarding further advancements and developing technologies. While there are papers covering the basis of definition, benefits and examples from practice, there have not been empirical papers conducting research in terms of whether there is a significance in implementing BizDevOps and the ability to build innovative products compared to traditional approaches. From a practice perspective it would be interesting to see future studies focusing on making the benefits of BizDevOps approach measurable for companies as this could lay the scientific base for a re-structuring of departments. Furthermore, it is likely that advancements of BizDevOps will raise the need for research e.g. regarding BizDevSecOps, where security is implemented as an essential part of the development process or the further integration of Machine Learning into BizDevOps teams.

5.4 Limitations

It is important to point out that the present paper and its findings are limited due to five different aspects. First of all, there are only very few scientific papers regarding the topic of BizDevOps itself. Therefore the paper represents a limited amount of perspectives.

Second, there is, as reported before, no common understanding of the term and approach of BizDevOps. This may cause the risk that there are other papers discussing the approach without explicitly using the term BizDevOps resulting in not being considered for this paper. Even though this risk was reduced when considering other search terms and papers via an iterative search process it still limits the completeness of findings of this literature review.

The third limitation is the limited timeframe. Since BizDevOps is a very recent topic, the limited timeframe until the publication of this literature review may exclude the latest papers which could add value & perspectives to the findings.

The fourth limitation is the limitation of language – the considered papers were published in English and German language which may exclude other relevant papers.

The fifth and last limitation is that case studies from consulting agencies may present useful information but have to be seen as well as marketing tools which may not correctly represent the circumstances and risks of implementing BizDevOps. They also may present frameworks as standard frameworks that have been developed for a single company and therefore would need to be adapted to be of use for other companies. It is therefore necessary to critically reflect papers published in that context.

6 Conclusion

This paper presents a State-of-the-Art overview of BizDevOps. Within this research question, it has been identified that there is not one single definition but rather a common understanding of BizDevOps being an interdisciplinary team of Business, Development and Operations implemented to overcome barriers of business and IT departments within a company.

The benefits of BizDevOps could be concluded in increased user-centricity and faster development speed, overcoming the challenges of increasingly intensifying markets within the context of the Digital Transformation. The success factors of implementing BizDevOps were clustered into three categories: organizational, cultural and technical. Organizational success factors included the breakdown of Silos in the company, supported by agile methods like SCRUM as well as a certain separation between the BizDevOps team and the remaining departments, both physically and in the term of responsibility. In addition to that a framework to supports the organizational structure needed for BizDevOps, interaction rooms and a split-up system of parallel development have been presented. Technical success factors for BizDevOps can be believed to be coherent with the ones for DevOps and adding on that two other success factors, one being a low-code platform to enable people from business departments to build technical applications and an adapted EAM structure to support the new development process were identified. Cultural success factors include an increased diversity within the teams (not only regarding professional expertise as in organizational success factors but gender, age etc.) and a mutual understanding supported by agile methods to foster collaboration over differing personalities. In addition to that, a failure-supporting mentality was analysed to be a cultural success factor.

For practice, this paper provides a hands-on overview enabling the management to identify possible use cases and requirements for BizDevOps within their departments and company.

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