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Abstract. COVID-19 reached the Australian shores by the end of January 2020 with the disruptive lockdowns commencing in March and continuing on and off till October 2021. The initial lockdowns have proved to be particularly disruptive to the service industries’ operations as they resulted in the dramatic and forced migration of the traditional brick-and-mortar or hybrid (brick-and-click) operations into the digital space. Being an unplanned move, it has caught many organizations unprepared and without a carefully crafted step-by-step digital transformation plan. In many instances, the transition had to be orchestrated overnight. The main objective of this paper is to identify and examine the current state of the digital transformation of the service delivery processes by the means of investigating both literature and the Open Source Data available in the service industries and sectors both locally (in Australia) and internationally. The study is part of the preliminary investigation of the digital transformation “boosters” and “blockers” to establish the Digital Transformation (DT) Framework as well as industry-wide practices for implementation and management of digital transformation programs. The review revealed several features and challenges to the digital transformation of the service deliveries with the challenges spanning several areas namely: Business Process Transformation (BPT), Communication Transformation (CT), Technology Transformation (TT) & Marketplace Transformation (MT). Based on the features identified by this study, the next stage of the investigation is going to be aimed at the establishment of digital transformation practices and tools for the service industries to adopt.

Keywords: Digital, Transformation, COVID-19, Emerging Technologies

Introduction

COVID-19 reached the Australian shores by the end of January 2020 with the disruptive lockdowns commencing in March (Zhang et al, 2020) and continuing and off ever since, with the possibility of further lockdowns to come. The initial lockdowns have proved to be particularly disruptive to the service industries’ operations as they resulted in the rapid and forced migration of the traditional brick-and-mortar or hybrid (brick-and-click) operations into the digital space. Being an unplanned move, it has caught many organizations unprepared and without a carefully crafted step-by-step digital transformation plan. In many instances, the transition had to be orchestrated overnight. However, as these unplanned lockdowns impacted (either directly or indirectly) all of the service industries by disrupting the conventional business processes, undertaking the digital transformation was nevertheless an inevitable move for all. While some locations have been impacted to a greater extent than others (the author happens to be residing in Melbourne, Victoria – a place that has been heralded unofficial “lockdown capital of Australia” and the “curfew capital of the world”), it is fair to state that significant disruptions to the service delivery have been happening around the globe with all nations and industries proving to be non-immune to these disruptions.
Another important consequence of the COVID attack was a change in the service consumers’ attitudes, consumption preferences, and even general perceptions of the surrounding environment. People (aka consumers of the services) tended to experience increased levels of stress that could result in a variety of behavioral responses ranging from uncharacteristic business and consumption engagements (Young, 2021) to rising speculations and disagreements on the issues of social divide (Lemoh, 2020). This alone proved to be an important disruptive factor that added pressure to sustaining the pre-COVID relationships between the services providers and the recipients/consumers of the services.

As the impact of the disruptions and the consequent rapid digital transformations has been quite dramatic, this paper aims to identify and examine challenges to this digital transformation of the service delivery processes by the means of investigating both the literature and the open-source data available on the Australian service industries and sectors. The study is part of a preliminary investigation of the digital transformation "blockers" to establish industry-wide practices for overcoming these blockers.

The investigation has been taking place across 4 dimensions of Digital Transformation:
- Business Process Transformation (BPT)
- Communication Transformation (CT)
- Technology Transformation (TT)
- Marketplace Transformation (MT)

Some of the transformation challenges (e.g. pace of the change) have been of pivotal relevance to all of the 4. On the other hand, for each of the respective dimensions, there have also been unique transformation blockers (e.g., lack of technical skills for the Communication Transformation and the Technology Transformation (Baron, 2021)). Furthermore, it has also been important to establish both the "destructive" and the "constructive" roles of COVID in fuelling those blockers as transformational projects have obstacles and barriers to overcome – even when pre-planned. On the other hand, as well as the blockers, the current environment has been one of the driving forces behind such rapid digitalization.

At this stage, the primary objective of the research has been limited to putting together an overview of the transformational processes. The consequent further studies will look into the development of concrete transformation solutions for the main service industries across all 4 dimensions.

Material and Method

This study uses an approach with a descriptive method, Soekanto, (2001: 8) suggests that the descriptive method is a method of researching the status of a human group, an object, a condition, a system of thought, or also a class of events at this time. As Heigham & Croker in Apriani, et. al (2021) stated that qualitative research aimed to know how the participants experience and engage with the phenomenon that occurs. The purpose of this research is to create a description of a picture or painting in systematic, factual, and accurate information concerning the facts under investigation. The aim is to obtain information about identifying and examining the current state of the digital transformation of the service delivery processes by the means of investigating both literature and the Open Source Data available in the service industries and sectors both locally (in Australia) and internationally. The study is part of the preliminary investigation of the digital transformation "boosters" and "blockers" to establish the Digital Transformation (DT) Framework as well as industry-wide practices for implementation and management of digital transformation programs.

The review revealed several features and challenges to the digital transformation of the service deliveries with the challenges spanning several areas namely: Business Process Transformation (BPT), Communication Transformation (CT), Technology Transformation (TT) & Marketplace Transformation (MT). Based on the features identified by this study, the next stage of the investigation is going to be aimed at the establishment of digital transformation practices and tools for the service industries to adopt.
Results and Discussion

Results

Digital Transformation as an Ongoing Developmental Process vs. Ad-Hoc Intervention

Digital Transformation has been commonly referred to as:

“The process of using digital technologies to create new — or modify existing — business processes, culture, and customer experiences to meet changing business and market requirements. This reimagining of business in the digital age is digital transformation. It transcends traditional roles like sales, marketing, and customer service. Instead, digital transformation begins and ends with how you think about, and engage with, customers. As organizations move from paper to spreadsheets to smart applications for managing our business, we have the chance to reimagine how we do business — how organizations engage their customers — with digital technology on their side.” – SalesForce (2021)

The Digital Transformation (DT) of services delivery has been an ongoing process that has commenced back in the 1990s and been picking up the pace ever since. While the initial DT programs often tended to start as combinations of experimental approaches to business development and improved service delivery, over time – digitalization has become an essential process for keeping the services available, easy to deliver, and easy to access. In other words, online availability has evolved into becoming a norm and an expectation rather than an option for organizations to embrace. Furthermore, establishing an online presence alone would no longer enable organizations to have sufficient credibility in the service recipients’ (aka internal and external customers’) eyes and a deeper more advanced level of digitalization has been required.

Increasing numbers of customers have been shifting their preferences from traditional service delivery channels toward online options. Studies have been indicating that this trend has been rather consistent across all segments of the marketplaces and all industries. Needless to say, there have been variations in the embracement of the digital delivery channels for instance some consumers tend to view online delivery as not only central but critical to the acquisition and sustainability of business relationships while others considered the online service delivery channels as helpful and important but a mere option. However, by the year 2020 (when the COVID outbreaks commenced), it was already difficult to imagine a completely non-digitalized service proposition available to wide-scaled audiences. It was more a matter of the degree of the digitalization as well as the reach.

Therefore, when curfews, lockdowns, and other restrictions started disrupting traditional delivery channels, it was neither a call for the DT to commence (as it had been in progress already) nor a reminder that it had to be a continuous process that was likely to shape out the marketplaces in years to come in all of the scenarios considered. It was more of a "push" to move from ongoing step-by-step digitalization towards an extremely rapid "ad-hoc" transition of all of the sub-systems of the service deliveries (even where immediate transition has not been on the agenda yet) online.

It is the push outlined above that has resulted in unprecedented problems and challenges rather than the very concept of the DT. For example, Baron (2020) discusses the struggles of Australian Technical and Further Education (TAFE) Colleges that were within their standard operational modes at the start of the week but had to make the inevitable shift towards online delivery of all (not just teaching) business processes linked to the service provision. Re pace of the "migration" into cyberspace, it was happening as follows: Monday classes would run as planned but by Monday afternoon, the colleges were put in a position that from Tuesday (the next day!) onwards – they would have to start shifting operations into the online mode. It was certainly a very unexpected transformation call that had caught many (if not all) of the Colleges unprepared. It quickly became very obvious that such a sudden change in the operational scenarios was difficult to mitigate and the consequent DT transitions were far from smooth. Unfortunately, the struggles discussed above turned out to be rather common occurrences (Shenoy et al, 2020, Turnbull et al, 2021).
More specifically, with teaching & learning alone, Turnbull et al (2021) identified 5 important challenges to digital transformation, namely ”integrating synchronous and asynchronous tools into seamless online delivery, overcoming barriers to technology access, improving online competencies for learners and faculty, overcoming academic dishonesty issues in online assessment, and privacy and confidentiality”. Given that transforming the teaching & learning experiences in just a single aspect of the total business process digitalization – provides a very clear idea of how challenging the Ad-Hoc DT can be. The challenges experienced within other industry sectors are different in nature but it is the "Ad-Hoc factor" has acted as a major destabilizer (Parlaklic et al, 2020).

Last but not least, the duration of the lockdowns and other covid-linked service delivery disruptions has been uncertain (Corsaro, 2020) and this uncertainty certainly adds to the realization of the essentiality of the digital transformations. On the other hand, it raises concerns about whether the current transformations are going to be lasting or whether further re-shuffling of the business processes and practices will be required once again shortly. Are these newly implemented processes there to stay or are they serving as mere temporary fixes to save the day for now?

**Identifying Digital Transformation Domains**

Digital Transformation Domains is a term that is commonly used to describe broader areas of DT with the focus on consolidating different transformational aspects and requirements by linking them to these respective areas (Vial, 2019). Ideally, all of the main organizational DT activities need to fall within the DT domains adopted as this will improve the effectiveness of the transformation programs by the means of linking all of these activities to one another. Such a systemic approach is pivotal for achieving the complete transformation rather than "local" improvements to a particular business process. On top of it, disintegrated transformational activities may lead to operational discrepancies rather than improved performance. The so-called "emerging digital designing" (Majchrzak et al, 2016) calls for all aspects of the transformation to share a single unifying umbrella.

While there has been a lot of work done on the identification of the DT domains with a wide range of approaches considered (e.g. Reis et al 2018, Rogers, 2018, Stoyanova et al, 2019, etc.), the authors’ work is focusing specifically on DT of the current business frameworks and processes, the domains selected for the DT investigation project have been incorporated and considered based on: business process transformational capacity and needfulness, essentiality, collaborative value, and measurability. As stated above in the introductory section of the paper, it culminated in settling for 4 unifying DT components, namely Business Process Transformation (BPT), Communication Transformation (CT), Technology Transformation (TT), & Marketplace Transformation (MT).

![Figure 1. Digital Transformation Domains](image)

For the establishment of the DT framework, it has been essential to draw a clear line between the transformation as such and the enhancement of the service offerings and support by the means of digital value-adding activities. There is a lot of compelling evidence (e.g. Gebauer et al, 2020, Umaheswar & Vijay, 2017) that digitalization can be instrumental in improving business performance by adding additional business processes to the current process mixes. While it is certainly a great technology-aided benefit, it can not be attributed (at least directly) to the DT of the traditional business processes. Therefore, bringing the value-adding activities/processes into the analysis has been beyond the scope of the current paper.
Discussion

Business Process Transformation

While the underlying role of digital technologies in Business Process Transformation (BPT) is transparent, as digitalization is the driving force behind innovation and sustainability (Strutinska et al, 2014) the COVID-fuelled urgency of the transformational matters appeared to have taken a significant toll on how the processes have been transformed. Baron (2020 & 2021b) highlights urgency as a dominant factor in how the transformation has been shaping out with the reference to Australian enterprises that had to put their business processes in "working order" while not given enough time to complete standard testing and business process optimization procedures. Thus, the Covidien BPT was open to greater than usual risk tolerance and at times, incorporated experimental measures and approaches.

Amankwah-Amoah et al (2021) draw an interesting analogy when portraying covid as a "catalyst" for the adoption and increasing use of digitalized business processes. The catalyst is highly complex as it has to be super-reflective of the foreseen and un-foreseen business opportunities and challenges arising as well as responsive to positive and negative feedback loops. Baron (2021b & 2021c) maintains that no matter how much we acknowledge the challenges (as described by Amankwah-Amoah et al, (2021), Lozada (2020), Setharaman (2020) & others) of the "forced digitalization" and take every step to understand business and social environments we are undertaking BPTs for, the uncertainty is unavoidable and it is reasonable to assume that assumptions and calculated risks are going to remain in the decision-making matrixes for the BPTs. Once COVID is over (and speculations on when it is going to happen lack unison -at least at this stage), the uncertainties may become less dramatic but the very appreciation of the fact that the world can be turned upside-down in no time will remain and will still be a factor to consider.

For the service industries, BPT has been married with struggles by IT teams to understand the new business requirements on short notice – particularly where intimate knowledge of the business processes had traditionally been linked to extensive industry experience and a "broad overview" of what the processes involve tends to be insufficient for understanding the complete spectrum of the transformation issues. For instance, Baron (2020) draws upon online assessments examples that would be hard to digest for those outside the education sector, so the technology/transformation gurus naturally had difficulties understanding the tasks they were to transform. Without time on their side, they were getting involved in the co-creation of the assessment futures based on perceptions and assumptions rather than compelling evidence. The issue is hardly education industry-specific as similar occurrences can be observed in other service industries (e.g. insurance (Bhalla & Osta, 2021)). It should be noted that it is about BPT rather than the technology transformation (TT) as the core roots of the problem have little to do with the lack or unavailability of technical expertise.

As evident from the discussion above, online service failures are rather common during the ad-hoc BPT transformations. As pointed out by Ozuem et al (2021) the customers were generally more "understanding" when compared with the pre-pandemic times and attributing such failures to pandemics rather than to providers' lack of care or professionalism. The concept of "clients not to be left with consequences of the company failures" was not dominant. This can be interpreted that while speedy DTs were difficult to accomplish smoothly, there was scope for greater variations in the perceived quality of the services deliveries.

On the other hand, internal "back-end processes" appeared to be causing more frustrations among the processes' stakeholders. For instance, Hou (2020) uses the example of an un-manned AL-powered bank to observe that while the transformation is overall optimizing service delivery performances, 85% of the covid-time AL projects tend to fail to achieve the outcomes desired. While AL accounts for a relatively limited share of the BPT, the study is nevertheless reflective of the overall trend of the ad-hoc transformations being difficult as similar sentiments are also shared by work that investigates other service environments, since in any case or industry BPT is "more than moving online" Keegan and Bannister (2020).
**Communication Transformation**

As Covid disrupted traditional communication channels, the Communication Transformation (CT) has become even more inevitable than the BPT and arguably even more prompting to undertake. The authors’ recent work (Baron, 2021) highlighted that even "social aspects" of organizations’ internal communications have been harmed by the transformations that often left the communicational aspects behind. Over recent months, there have been many efforts to replicate the social side of the workplace communications that (in pre-covid times) were taking place in the office environment, but the roses of the newly established digital social workplace communication channels have not been without thorns. The CTs had to address not only "purely business" processes but also the so-called "communication rituals" (Methot et al, 2021).

Internal business communications and external communications with customers and trading partners have been forced into rapid CT to an even greater extent. While the social aspects could be considered to be compromised at least for the time being, functional communications had to be sustained irrespective of the externally caused barriers such as lockdowns and trading restrictions. Grosul and Usova (2021) emphasize that communication breakdowns are not mere inconveniences that may slow the business down but can translate into any further problems such as information security problems. Thus, instead of providing solutions to the transformation jigsaw puzzles, on the contrary - the CTs may act contagiously and escalate the situation even further. Therefore, one of the critical aspects of the CT has always been disruption avoidance as the transformational activities are to smoothly take communications to a new (higher) level without any discrepancies along the way. As such discrepancies are quick to drive-down organizational performance, under normal (pre-covid) circumstances, they could be addressed during the planning and testing stages. Yet, under the ad-hoc scenarios, it has often been unrealistic to secure (Baron, 2020, Baron 2021 (c)).

It has been highlighted (Carnevale & Khatak, 2020)) that CT disruptions that start from communication breakdowns, gradually escalate to disrupt other aspects of the business. Even from social distancing alone (Koren & Peto, 2020), the disruptive impact can be colossal. It makes CT not only one of the overall primary goals/dimensions of a digital transformation but also arguably one of the very first dimensions to attend to at the times of Ad-hoc traditional-to-online business restructurings. Robbins et al (2020) refer to it as the new "digital dawn" where speed of change and adoption of new communication technologies are critical.

Another interesting trend of the Covid-affect CTs has been the need to address rapid changes in the information content and emotional appeal shift in the consumers' mindsets as the pandemic has been having a significant impact on the expectations and needs of customers. Arzhanova et al, (2020) emphasize the emergence of new communication goals coming into the limelight, namely: sending important covid-19 updates, demonstrating a commitment to reassuring and telling the truth, celebrating empathy and support, and highlighting the online service delivery/consumption options. In other words, it is not that the customers are totally moving away from the pre-covid goalposts (other than sending covid updates, and other communication goals and objectives have always been treated as significant). It is more to do with the shifts in prioritizations of factors that have always been considered but possibly without occupying the central stage.

On top of the empathy, there tends to be a greater need for the CT architects to embrace the concept of personalized communications where relationships with the stakeholders (aka customers) at least appear to be portrayed as important throughout the communication process, making the customers feel that they do matter. Such personalization calls can be traced along with the complete entire spectrum of service offerings as well as internal communications of organizations. Throughout the examination of the Covid-time CTs, it has become transparent that the personalization's critical role has been confirmed through either having personalization patterns and tools implemented/attempted or called for. Corsaro et all (2020) refer to it as
"relationship selling" and the term appears to be a rather accurate description of the CT's role in the covid/post-covid era.

**Technology Transformation**

As noted by Khaled et al. (2020), within the span of 24 hours, 20 years of development in technology have been turned into a pandemic and while many technology developmental time shifts have been taking place – it is what it is. Finn cited in Apriani (2016) claim that technology includes processes, systems, management, and control mechanism both human and non-human, and a way of looking at the problems as their interest and difficulty, the feasibility of technical solutions, ad economic values-broadly considered–of those solutions. In another word, Galbraith cited in Apriani (2016) stated that technology is the systematic application of scientific or other organized knowledge to practical tasks. In Addition, Heineke in Apriani (2016) said that technology is a facilitator of quality education. Many of the rapidly adopted technologies have not been tested comprehensively for impact, reach, and reliability so their TTs certainly contain higher than usual risk. Occasionally, even “trial-and-error” approaches had to be adopted and certainty of success was nothing but speculative (Baron, 2021c) but then again – organizations had little choice but to experiment as otherwise – they would simply not be able to sustain their operations in the Covid world (Baron, 2020).

Shifting DT to a high-speed gear has also been married with (coinciding with Covid) the emergence of new technologies Soto-Acosta (2020) draws attention to this "coincidence". Cloud computing, Big Data, machine learning, artificial intelligence (AI) Internet of Things, robotics, smart manufacturing, and predictive data analytics to name a few. In the pandemics-fuelled scenarios, companies could put digital technologies to good use to accomplish covid-normal business processes such as instance using the technologies to support essential social distancing policies.

Another evident factor is that smaller enterprises tend to be paying higher prices for having to live through the Covid transformations than established corporations. Both Baron (2021b) & Winarsih et al (2020) stressed out TT challenges for SMEs are significantly greater problems when compared with larger counterparts as larger organizations naturally have significantly greater access to technical, human, and infrastructure resources required to fulfill the transformational tasks and activities successfully. Given that resources that are the backbones of such transformations are scarce, the covid pressures have been causing them even greater tensions. Furthermore, while disruptions (as discussed above in the BPT section of the paper) have been undermining all of the service providers, income and losses of customers along with breakdowns of business partnerships were hurtful for all, smaller players were inferior position to be resilient. Their scarcity of resources was a major limitation in turning the crisis into an opportunity (Baron, 2020). However as suggested by Akpan et al (2020) even in developing markets (where arguably, the resource scarcity and deployment challenges are even greater), the pandemic left little alternative but to rely on the TT.

All in all, in the service industries' the TTs that have been reactive to Covid rather than "a-la business-as-usual" gradual proactive developments to enhance various aspects of services' deliveries. While such reactivity has been inevitable, it may nevertheless leave a lasting mark on the overall transformational impact. Only time will tell, how sustainable the newly created infrastructures are going to be in the brave new world. The role of technology is to drive business processes forward and to support them throughout the transformational journeys and beyond. In the current scenario, there is a clear added role in supporting organizational survival. Since SMEs are in the limelight of this study, it should also be noted that as confirmed by Abed (2021) for smaller enterprises – it is TTs that have thrown in the lifelines. Furthermore, while the problems persist at least for now, small enterprises within the service industries tend to be performing reasonably well at least from a "survival mode" perspective (e.g. SMEs in Oman as shown by Mishirif and Khan (2021)).

**Marketplace Transformation**
One of the obvious reasons for businesses to undertake changes to their processes and practices is the need to upgrade their offerings to the marketplaces’ standards and demands – and with Covid on the offensive, the Marketplace Transformations (MTs) (as evident from the discussion above) have been happening without notice and in spontaneous if not chaotic manner.

Some of the MT's signs have been particularly obvious and straightforward. For instance, embracing digital sales (Kim, 2020) online support for both external (Klein and Todesco, 2021) (aka consumers) and internal (Cankuratran and Beverland, 2020) (aka suppliers, internal operations, etc.) customers. As the service marketplaces have already passed the point of "no return" to the so-called pre-Covid normal, MT has brought service providers to the scene where every service delivery operation requires a strong digital presence. The businesses may be returning to the pre-Covid modes of services' deliveries but that won't mean that the operations are going to be "undigitized" by taking a step back to the pre-loved operational modes. Even if (hypothetically) they would want to, the new service marketplaces would leave them with little scope for doing so.

One obvious example of how the marketplaces have been affected by the Covid-fuelled transformation is the re-prioritization of many consumer segments from purely commercial sides of the offerings towards the more "socially sustainable" ones. Mehta et al (2020) acknowledge that while it does sound too dramatic (at least at first sight), a spiritual approach toward consumerism is emerging. Appreciation of spontaneity and universality of Covid’s impact affected the behavioral dynamics of many consumers (and arguably at least some of the organizations as well (e.g. He and Harris (2020)) profoundly and led them to embrace the redefinition of social spheres and individual orientation. More specifically Mehta et al (2020) suggest that the new marketplace developments are calling for looking into:

1. "rethinking about considering a spiritual approach in understanding consumer behavior with keeping drivers such as economies of consumption, saving, and health in mind;
2. mobilization of resources at speed and scale as the central focal point of business to respond to the behavior changes of consumers;
3. rewiring COVID generation: opportunity to realign the present conscious young generation to new life principles and build a new segment of consumers; and
4. create new product or service stories to present to conscious generation."

While only a test of time will tell whether the transformation is going to be as radical as suggested by Mehta et al (2020) once the initial excitement over the transition settles in and both services recipients and services providers "calm down" a little, the MT is more digital than ever. This is what aligns the MT with the TT very closely (or to be more precise – another way around as it is the TT that is responsive to the MT).

The "transform or perish" slogan (Gurbuz and Ozkan, 2020) is reflective of the current marketplaces. Back in the year 2019 when COVID still "did not exist", the PWC global crisis survey revealed that 69% of the companies have been through at least a single crisis within 5 years with 95% of the companies anticipating experiencing a crisis in one form or another in the forthcoming future. One can only wonder, what the expectations are right now. 95% in the pre-Covid times is likely to translate to 99% or so in the current socio-economic climate. But then again, the 2021 studies by the very same surveyor (PWC, 2021) indicate that 20% of the organizations consider overall covid-fuelled marketplace transformations to be positive rather than negative.

MT tends to make service provision more universal and even traditionally "conservative" businesses have been pushed towards adopting global thinking. Kumar and Ayedee (2021) remind us that in the light of recent turbulent trends, acting locally is inevitably linked to thinking globally. A service provider may not even be aiming at embracing marketplaces across the globe, yet its operations will be influenced by the global processes rather heavily. Likewise, MTs have been taking place through industry-wide collective responses of the service providers to mitigate COVID impacts. New processes and practices had to be adopted not only at the company/organizational level but quite often – at the industry level. This has been happening across many industries such for instance health insurance (Nayak and Bhattacharya, 2020) and
within the financial sector (Maiti et al, 2021). As for the common obstacles and barriers to successful digital transformations, they have been shared across the affected service industries (e.g. the "case of Tele-Health" as discussed by Triana et al, 2020) and are therefore MT factors. It could be argued that it is the shared nature of the challenge that pulls the otherwise competing firms together in addressing those challenges.

Last but not least, the MTs tend to bring more common grounds for private and public service organizations. As the technology and the business process challenges are often shared, greater integration between these 2 marketplaces’ “stakeholder groups” is likely since they tend to be having more in common than ever. Therefore, as time goes by, more collaborative developments to bring the private and public sector operations in closer unison could be anticipated (e.g. Chetty et al, 2020). Linking DTs to greater collaborative marketplace development is not a COVID creation. Indeed, there have already been many older (pre-Covid) examples of fostering digital inclusiveness among both public and private enterprises across the globe but then again, COVID provided those initiatives and projects with a much-needed boost. For example, In Australia (and at very first sight, it may look like a Covid-time initiative there is a Digital Transformation Agency (DTA) – a government agency that has been created to promote digital services delivery. The agency is responsible for policy leadership and investment advice for digital developments as well as for overseeing the Australian governments' digital transformation that is supposed to deliver benefits to all Australians (DTA, 2021).

**COVID as a DT Accelerator**

Every crisis is an opportunity. COVID-19 has been acting not only as a disruption agent but also as an accelerator for DT throughout the service marketplaces. Agostino et al (2020) use the example of Italian state museums to outline 3 areas where the rapid ad-hoc transformation has been particularly critical yet issues-packed: user engagement, planning and control, and costs. The brave new world of Covid/post-Covid can not be entered on the wings of the traditional business paradigms. Such acceleration has been echoed across arguably all of the mainstream service industries.

Now that the discussion above examined all 4 main dimensions of the digital transformation, there is little reason to doubt that the DT is a clear benefactor of the brave new world that COVID brought upon us! For each of the 4 dimensions, COVID-fuelled changes and pressures have been instrumental in driving the DT forward. The examples examined have not been limited to a particular service industry, region, or type of enterprise. They do not focus on a particular setting or a niche market. Yet, the role of COVID has always been pivotal. The future remains uncertain but the ongoing drive towards greater digitalization appears to be an absolute certainty!

**Conclusion**

In recent years Digital Transformations have been nothing short of a natural evolution of service deliveries and have been happening across all marketplaces around the globe irrespective of individual firms' willingness to embrace the transformational processes or a lack of such willingness. Every service provider had to embrace the concept of digital presence to one extent or the other and continuously keep on upgrading its modus operandi with every technology micro-revolution. Therefore, at a company level, it has been not a question of whether to transform or not but more about the pace and ways of the transformation. However, the sudden arrival of COVID disrupted even the most disruption-resilient transformational activities and has taken the DT to a new level (and pace!).

As evident from this paper, with all of the 4 dimensions considered (Business Process Transformation, Communication Transformation, Technology Transformation, Marketplace Transformation) – the COVID responses have been rapid, spontaneous, and more disruptive than ever! Not a single service industry where the transformation has not been occurring (not even at large but across a single dimension) could be identified. At the firm level, there have been multiple cases of “not transforming” but those cases (usually attributed to the so-called transformation...
blockers) could be mostly attributed to a failure to transform rather than an unwillingness to do so.

It could be concluded that to transform or not to transform is not the question. While there are no grounds to claim that the digital transformation has been completed (since it is an ongoing process) – the study makes it transparent that we are already living in a brave new world. The brave new world that will most certainly keep on evolving!

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