



Journal of Intercultural Management

Vol. 13 | No. 1 | March 2021

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eISSN 2543-831X

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Tourist Accommodation
Establishments during
the Pandemic – Consequences
and Aid Report on a Survey
among Polish Micro-enterprises
Offering Accommodation Services

ABSTRACT

Objective: The key objective of the article was to seek the answer to the question how the limitations of the first COVID-19-related lockdown affected small businesses offering accommodation services and how the businesses fared during the unlocking period. The side objective of the paper was to identify the actions undertaken in said businesses aimed at providing safety for the guests as well as to show the expectations such businesses had when it came to government aid.

Methodology: In order to meet the objectives and to verify the working hypothesis, empirical research using the diagnostic survey method was conducted at the end of 2020. The article provides the results of the pilot survey carried out on a selected group of microbusinesses providing accommodation services. The link to the questionnaire was sent to 1000 entities, of which 47 completed it correctly.

Findings: The tourist industry is among those affected most by the COVID-10 pandemic. The research revealed that during the first lockdown, the closure of accommodation businesses had a relatively strong impact on the subjects of the research. The situation remained similar during the first months of lifting of the restrictions. The summer brought a slight recovery albeit not as big as was expected. Nevertheless, strong premises were found which supported the hypothesis saying that such subjects – due to their size-dependent nature – fared relatively well in all three sub-periods. For the most part, such entities re-started their operations in spring. In many of them, the level of employment remained unchanged despite the significant drop in their incomes – mainly resulting from a lower number of foreign visitors and - to a lesser extent – from lower prices. The struggle for customers forced the subjects to introduce various solutions aimed at providing safety, which proved a considerable financial and organisational burden.

Value added: The research is one of the first attempts in Poland to measure the impact of lockdown on the functioning of accommodation businesses and one of the few focusing on microbusinesses. The findings show to what extent the lockdown affected the operations of the entities in question, how the lifting of restrictions changed the situation in the summer, and what actions were taken to minimize the risk of infection.

Recommendations: The findings show that the analysed entities are able to function in sanitary regime and that they support solutions which will allow them to offer their services in as safe a way as possible. On the other hand, they expect strong support from the state including subsidies or exemptions. It is to be expected that the need for this form of aid will grow even stronger after further lockdowns.

Key words: tourism, pandemic, accommodation services

JEL codes: M10, M30, Z32

Impact of Epidemics on Tourism

Tourism industry is a sector much vulnerable to a number of factors, including the ones having definitely negative impact. Based on the previous experiences following different types of crisis, also the ones that occurred in the 21st century, changes in the consumer behaviour may be observed, such as refraining by some tourists from travelling, which is driven by their fear of possible threats. As it was pointed, fear sources may be diverse. For instance, they may be linked to war, political situation, terrorism, climate conditions or a risk of being afflicted with a disease, and the tourist demand strongly depends on different types of disasters and crises (Cro & Martins, 2017). To name only a few examples one should think of the annexation of Crimea by the Russian Federation (Ivanov, Idzhylova, & Webster, 2016) or 11/9 terrorist attacks (Blade & Sinclair, 2003; Hall, 2002).

It is suggested that financial crises and security-related crises affecting tourism industry are man-made crises most often analysed in the literature (Li, Wen, & Ying, 2018). Particularly terrorist attacks that are immediately reported in media have strong and quick impact on tourism industry (Hajibaba, Boztug, & Dolnicar, 2016, p. 49).

The risk of being afflicted with a disease is an important factor affecting tourism demand, still it is more frequently associated with the developing countries, rather than the developed ones (Jonas, Mansfeld, Paz, & Potasman, 2010). Professional literature analyses how the risk of different diseases, like borreliosis, affects the tourism industry (Donohoe, Pennington-Gray, & Omodior, 2015). Research place great emphasis on virus threats and epidemics they cause. The impact of pandemics like SARS (Cooper, 2005; Rittichainuwat & Chakraborty, 2008; Breda, 2004; Henderson & Hallin, 2007), influenza A/H1N1 (Rassy & Smith, 2013; Solarin, 2015), or Avian Flu (Page et al., 2006) has been broadly discussed in the literature. However, one should bear in mind that also other diseases, even if they do not affect the human health and life directly, have also strong impact on the tourism sector. As

the English Tourism Council assessed, Foot and Mouth Disease could result in economic losses estimated at £5 billion in 2001 (Miller & Ritchie, 2003).

Both epidemic, as well as different diseases described in the tourism context are analysed taking into consideration different aspects of this issue. Analysis of protective behaviour is one of the aspects examined in research on health risk related with travelling (Chien, Sharifpour, Ritchie, & Watson, 2017). Sensations seeking, defined as “need for varied, novel and complex sensations and experiences and the willingness to take physical and social risks for the sake of such experience” is another issue connected with the tourists’ attitude towards threat (Zuckerman, 1979, p. 10, as cited in Lepp & Gibson, 2008, p. 741). It seems that tourists seeking “experience” are more willing to take risk while travelling to destinations known for social unrest or the risk of being afflicted with an infectious disease. According to research carried out so far young people are more ready to run the risk, even the one connected with epidemic (Aro et al., 2009).

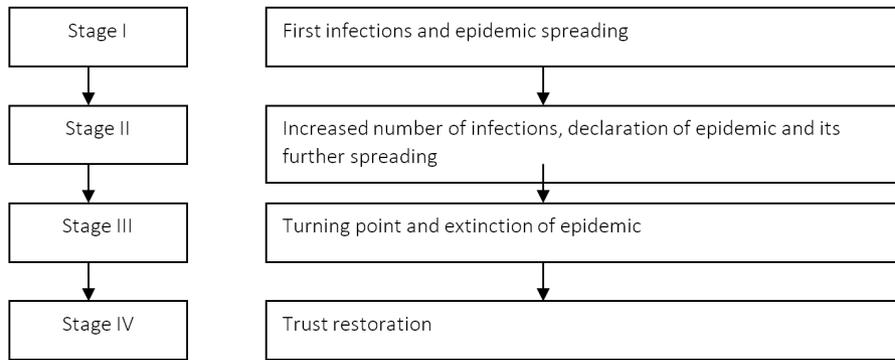
Analysis of the epidemic impact on the tourist industry seems to be particularly often and profoundly examined research area. As it has been pointed, researchers usually analyse the impact of a crisis (like pandemic) on particular destination (Teitler-Regev, Shahrabani, & Goziker, 2013, p. 85). It remains indisputable that epidemics and all threats related with them result in the reduction of tourism demand in destinations where a given infectious disease is present. However, the scale of shift in demand as well as the consequences suffered by a given destination, or by other areas in case of demand relocation, leaves the question open.

According to research carried out in 2015, 25% of international tourists changed their holiday plans due to safety concerns or health conditions present in destinations they were to visit (Nicula & Onetiu, 2016, p. 196). However, these are not diseases that constitute the main reason for cancelling departures. In one of the surveys only 31% of respondents provided that reason, whereas 83% feared terrorist attack and 49% were afraid of armed conflicts (Nicula & Onetiu, 2016, p. 196). On the other hand, there

are also opinions that the impact of SARS epidemic in East Asia on tourism industry was four times or even five times greater than 11/9 attacks in the USA (Au, Ramasamy, & Yeung, 2005, pp. 86–87).

Economic costs of epidemic, borne also by the tourism industry, are incredibly high (Sułkowski, 2020). The costs of bird flu pandemic were estimated at 3.1% of the global GDP in 2007 (Tew, Lu, Tolomiczenko, & Gellatly, 2008, p. 338). The International Labour Organization estimated that due to SARS epidemic in China and Hong Kong and the resulting decrease in travels, 5 million jobs could have been lost worldwide in 2003. The World Travel and Tourism Council estimated that that year China would lose 2.8 million jobs, still this figure is likely to be much higher if indirect impact is taken into consideration. Financial loss was estimated at 20.4 billion in the China GDP (Breda, 2004). It was estimated, that in percentage terms, private travels in China in 2003 decreased by 14%, travel and tourism industry employment fell by 20%, and the decrease in travel and tourism industry GDP reached over 20% (WTTC, 2003). Between December 2002 and June 2003, the number of tourist travels to Hong Kong was 4 times lower (Au, Ramasamy, & Yeung, 2005, p. 86). SARS infections, also the ones which ended with patient's death, were also reported in Canada. To name an example, in Toronto itself the loss suffered by the tourist industry from 6 April to 1 June 2003 was estimated at 180 million dollars, whereas between 2 March and mid-July the figure exceeded 340 million, resulting in over 12 thousand jobs lost, mainly in the accommodation (Tew, Lu, Tolomiczenko, & Gellatly, 2008, pp. 334–335). It is worth mentioning that the decreased number of tourists is directly reflected in the loss suffered by the hotel, restaurant, transport, entertainment or souvenir sectors, and due to multiplier, it indirectly affects other cooperating sectors and further branches (Marjański & Sułkowski, 2021).

Figure 1. Stages of epidemic vs tourism



Source: own compilation.

Figure 1 presents 4 stages of epidemic and its impact on tourist destinations. Special attention should be paid to the last stage, as this is the time when tourist managers can exert the strongest influence on creating tourism demand, and thanks to proper initiatives loss caused by epidemic is likely to be minimised. This is the reason why even at the present stage of Coronavirus pandemic it is advisable to examine tourist plans in a medium to long-term perspective.

- 1) Stage I – first infections and epidemic spreading – initial stage during which number of infections increases and first news is reported in media, but at the same time the impact on tourist travels is relatively low, however with some decline in bookings and planned arrivals.
- 2) Stage II – increased number of infections, declaration of epidemic and its further spreading – news on epidemic is broadcast in headlines, there is a growing concern among tourists, planned arrivals are cancelled.
- 3) Stage III – turning point and extinction of epidemic – the number of infections decline, but the travel concerns continue to exist, tourist sector still suffer heavy loss, media news on epidemic situation in a given state becomes relatively less frequent.

4) Stage IV – trust restoration – post-epidemic period, when trust to particular destinations needs to be rebuilt, media lose interest in the epidemic despite great potential in supporting recovery of tourism.

Other authors point that this stage and its characteristics are relatively rarely analysed (Mao, Ding, & Lee, 2010). As mentioned above, outbreak of epidemic causes arrival cancellations in a given destination, and the epidemic-related concerns are likely to continue long after its termination. Initiatives aimed at recovery of tourist demand and preventing the customers from cancellation of their bookings are of great importance both in the situation presented above and other types of crises (Hajibaba, Boztug, & Dolnicar, 2016, p. 49). In the case of Covid-19 pandemic due to worldwide problems the situation will be certainly special.

The significant role of media (Walters, Mair, & Lim, 2016) in the process of tourist demand shift due to risk of being afflicted with a disease is worth emphasizing. It is possible that certain number of infections will not grow to epidemic, but still the topic will excite media interest and arouse travel concerns. Specialists point out that the media are able to create inaccurate impression that travelling to certain destination entails a risk (Valencia & Crouch, 2008, p. 25). In such a situation, despite little actual threat, the tourism sector may suffer a heavy loss. Emphasis is put on the fact that there is a positive correlation between being aware of a risk and willingness to run it (Wang & Wang, 2018), and this is the media that to a great extent bear responsibility for creating news in which travel-related risk awareness is raised.

Moreover, an image created by the media may be long-standing (Beirman, 2003, as cited in Valencia & Crouch, 2008, p. 25), which is why Stage IV aimed at restoration of trust to a given destination is so important. In the case of SARS, it was pointed out that tourism sector suffered consequences of the epidemic even 5 years after (Tew, Lu, Tolomiczenko, & Gellatly, 2008).

Obviously, also COVID-19 pandemic is a subject of numerous analyses, including the ones concerning tourism industry. Firstly, it needs to be emphasized that its range and impact is incomparable with the epidemics discussed

above. Secondly, the epidemic is ongoing. It seems that according to the scheme presented in figure 1, many regions in the world, like Israel, are about to enter Stage III, which is greatly thanks to mass vaccination. On the other hand, due to dynamics observed during the pandemic and new virus variants discovered by the scientists, extinction of the pandemic remains uncertain.

The whole world suffers the pandemic negative consequences. Closed borders, transport restrictions, limited functioning of hotels and closed entertainment venues due to COVID-19 outbreak have resulted in crisis suffered by the tourism industry, which is estimated to be even ten times higher than the 2009 crisis. Data presented by the UNWTO alone concerning international tourism industry shows heavy loss. The number of international travels between January and October 2020 declined by 72% as compared to the same period in 2019, with the loss amounting to 935 billion dollars. Mass vaccination gives some prospects for the tourism industry to recover, however, as UNWTO estimates, to achieve the 2019 level we must wait between 2 and 4 years (Wolska, 2020).

Restrictions in the movement of persons and limited activity of the hotels resulted in the sharp decline in the number of individuals using tourist accommodation establishments also in Poland. During lockdown in April 2020 there was almost no tourist activity and the number of tourists in accommodation establishments was 28 times lower as compared to the previous year. The situation was improving in the following months, but during the summer holiday there were 30% fewer tourists than one year earlier (Krzyżaniak, 2020). As compared to 2019, in 2020 the number of tourists using tourist accommodation establishments declined by 49.9%. In 2020, only 26.8% of overnight accommodation in all tourist accommodation establishments was occupied, which means a decline by 13.8% as compared to the previous year. Decreased number of tourists visiting accommodation establishments was reported in all Polish provinces, with the lowest decline in West Pomerania Province (by 34.4%) and Warmia-Masuria Province (by 36.6%), and the highest decline in Mazovia Province (by 61.8%). According to data presented by the

Statistics Poland (GUS, 2021), in terms of using overnight accommodation the highest figures were reported during summer holiday in July (38.3%) and August (44.5%), but as compared to the similar period in 2019, the figures declined by 13.5% and 8.7% respectively (GUS, 2021).

Beyond doubt it is still too early to assess pandemic impact on the tourism industry in a complex way. Nevertheless, efforts aimed at doing some forecasts are being made (Bouarar, Mouloudj, & Mouloudj, 2020; Khan & Hashim, 2020). The current situation is also being compared with the previous epidemics; however much emphasis is given to the uniqueness of the present crisis (Gössling & Scott, 2021). It is clear today that the actual pandemic impact is different/stronger than it was initially assumed (Foo, Chin, Tan, & Phuah, 2020).

Despite the fact that the pandemic is still ongoing, there are some efforts to develop possible crisis recovery scenarios – either based on econometric models or relying on a panel of experts (e.g., Delphi method). However, stress is put on the fact, that both limited access to data and unpredictability of pandemic development restrain possible reasoning (Zhang, Song, Wen, & Liu, 2021).

There is also no element of surprise that some research is dedicated to particular segments of the tourist industry, like the ones related with the transport services, overnight accommodation or operation of the travel agencies (Ghazali & Ishak, 2021). The following study focuses on the operation of small- and micro-enterprises offering overnight accommodation services.

Research aims and methodology

Tourist industry is characterised by strong diversity and is made of different entities. Establishments offering accommodation services make the key group and taking this group into consideration micro-enterprises are of special interest. The entities in question manage small establishments, which in the pandemic perspective should constitute an asset and be considered as competitive advantage, as the social distancing requirement is

more likely to be observed there. According to data presented in the Statistical Yearbook of the Republic of Poland, in 2019 there were 11251 tourist accommodation establishments in Poland, out of which 2635 constituted hotels and 1064 other hotel facilities. Boarding houses, motels and "other facilities" i.e., the research potential addressee, constituted the remaining 70% (Statistical... 2020, p. 409).

The major aim of the research was to determine how pandemic-related restrictions introduced during the first lockdown affected small facilities and how these establishments cope during the economy unfreezing. Research hypothesis was therefore as follows: micro-entrepreneurship offering overnight accommodation services, due to their sizes, did relatively well while coping with the COVID-19 restrictions introduced in Poland in 2020, both during the lockdown, as well as spring and summer economy unfreezing. Another aim of the research was to identify actions undertaken by these establishment in order to guarantee the tourists safety. The research also aimed at uncovering respondents' expectations in terms of aid to be provided to micro- and small-enterprises offering overnight accommodation services.

47 accommodation establishments participated in the research. Rooms for rent (29.8%), agrotourism lodgings (27.7%) and boarding houses (12.8%) made the greatest share of respondents. Apart from the above-mentioned facilities, the research covered also other types of facilities, i.e., complexes of tourist cottages, villas, and excursion hotels. Most establishments were located in the mountains (78.7%) and at the seaside (10.6%). Out of all establishments 91.5% operated all year round. Family-owned enterprises constituted 80.9%.

The research was conducted in November and December 2020. Participation invitation letters were sent via e-mail to 1000 establishments; moreover, 150 phone calls to the prospective respondents were made to strengthen the request. 47 establishments responded positively, which make only 5% of all entities to which the survey link had been sent. Of course, this cannot be considered as satisfactory, and therefore results gathered must be considered as the first stage of the ongoing research aimed at assessing

pandemic impact on small-sized tourist enterprises in Poland. On the other hand, that situation was partly explicated during the phone calls. Large number of establishments were run by elderly persons who were often unable to use e-mail correspondence. Moreover, due to situation caused by the lockdown many owners were not interested in taking part in the survey.

Results

In the first part of the questionnaire, respondents were asked to assess the establishment's standing at the outset of the pandemic. That period was divided into 3 sub-periods: lockdown and far-reaching restrictions affecting the tourism sector – March–April; lifting the restrictions – May–June; summer holiday – July–September 2020.

During the research respondents were asked to specify the date of re-opening the establishment following the economy unfreezing in the spring 2020. Slow re-opening started in April (that month only 4.2% of establishments re-opened – 2 respondents). Most of the respondents indicated June (40.4% – 19 respondents), and a little fewer May (31.9% – 15 respondents). Another 19.1% of the surveyed establishments re-opened in July (9 entities). 2.1% of the respondents (1 establishment) was closed even during the whole summer holiday.

The aim of the research was to determine what kind of changes the establishments experienced and to what extent (discretionary opinion – expressed in % as compared to the previous year) COVID-19 (during spring 2020 lockdown, from the moment of lifting restrictions to June and during the summer holiday) affected: employment, employees remuneration, occupancy level in the establishment, share of foreign tourists, duration of the tourists stay, sales revenues, room rates, maintenance costs resulting from an obligation to observe sanitary requirements. Results are presented in tables 1-3.

Table 1. Changes experienced by the accommodation establishments during lock-down as compared to the previous year

	decline (in %)				increase (in %)				no changes	not applicable (own workforce is used)
	1-29	30-59	60-99	100	1-29	30-59	60-99	100		
employment	2	4	3	4	0	0	0	0	23	11
employees remuneration	7	2	5	4	2	1	0	0	16	10
revenues on service sales	5	12	13	13	3	0	0	0	1	0
establishment maintenance costs	8	6	4	0	9	5	1	2	12	0

Source: own compilation based on questionnaire survey.

According to table 1, during the lockdown almost 50% of establishments did not change employment level. Individual establishments downsized employment (in different percentage share), including 4 cases (8.5%), where downsizing reached 100%. Increased employment was not reported in that period. In terms of remuneration, conditions were almost the same – large group of establishments – 34% – did not change it, but some establishments lowered employees' remuneration in different percentage share. During lockdown, 91% of establishments reported lower revenues on service sales. In percentage terms the said decrease significantly differed. Decline in the revenues on service sales reaching 1–29% was reported by the fewest number of establishments. The remaining ranges (concerning decline in revenues) was reported by similar number of establishments (12–13 respondents). In terms of maintenance costs during the lockdown, 38% of accommodation establishments reported decline indicating different percentage ranges, whereas for 36% of them maintenance costs were higher. Quite a large number of establishments claimed there were no changes in the maintenance costs – 25.5% of respondents.

Table 2. Changes experienced by the accommodation establishments from the moment of lifting restrictions to June (number of establishments) as compared to 2019

	decline (in %)				increase (in %)				no changes	not applicable (own work-force is used)
	1–29	30–59	60–99	100	1–29	30–59	60–99	100		
employment	2	4	3	2	2	0	1	0	23	10
employees remuneration	5	3	3	2	4	1	0	0	19	10
occupancy level	4	18	15	5	3	1	0	0	1	0
revenues on service sales	4	14	17	6	5	0	0	0	1	0
room rates	14	4	3	1	2	0	0	0	21	2
duration of guests stay	11	13	7	2	1	0	0	0	11	2
share of foreign guests	6	2	7	20	0	0	1	0	9	2
establishment maintenance costs	8	0	2	0	18	2	1	2	14	0

Source: own compilation based on questionnaire survey.

Table 2 shows that during the following period – from the moment of lifting restrictions to June – in the same number of establishments (almost 50% of respondents) employment level was not changed, similarly to the previous period. As previously, downsizing was present in individual establishments with different percentage share, and only in 2 establishments decline reached 100%. Also, during this period similar percentage share of respondents reported no changes in the remuneration (40% of establishments). A number of establishments reported lower remuneration in different percentage ranges. During the second period, 87% of establishments also reported lower revenues on service sales. However, as compared to the previous period, a larger number of establishments (49% respondents) reported increased maintenance costs, which means that situation was experienced by additional 6 establishments (13%).

With respect to establishments re-opening, respondents informed about changes in room rates, duration of guests stay and the share of foreign guests. Results of the survey show that in 44.6% establishments room rates remained unchanged. Large number of entities (29.7%) reported decline in room rates ranging 1–29%. Unfortunately, during that period 70.2% of establishments informed that the duration of guests stay was shorter.

What is quite characteristic for that period (still foreseeable) is that 74.4% of respondents reported significant decline in the number of foreign guests, including 42.5% establishments where the said decline reached 100%. Declined occupancy level was observed in the majority of establishments (89.4%), ranging 30–59% (18 respondents) and 60–99% (15 respondents).

Table 3. Changes experienced by the accommodation establishments during the summer holiday (July–September) as compared to 2019

	decline (in %)				increase (in %)				no changes	not applicable (own workforce is used)
	1–29	30–59	60–99	100	1–29	30–59	60–99	100		
employment	2	3	3	1	1	2	0	0	25	10
employees remuneration	3	1	4	1	5	1	1	0	21	10
occupancy level	5	15	9	1	7	3	2	0	5	0
revenues on service sales	7	12	8	2	10	4	0	0	4	0
room rates	9	5	2	1	5	0	0	0	24	1
share of foreign guests	6	2	8	19	0	1	0	0	9	2
establishment maintenance costs	4	2	3	0	17	6	0	2	13	0

Source: own compilation based on questionnaire survey.

Table 3 presents changes observed in the overnight accommodation establishments during the summer holiday. As it comes to employment

level, the changes were insignificant. Downsizing was reported by slightly smaller number of establishments than during the previous period. Similarly to employment level, also decline in remuneration was reported by fewer establishments. That was an expected result, as firstly, during the holiday tourist demand was definitely higher, and secondly decline in both aspects was reported during both previous periods. During the summer holiday some establishments (25.5%) reported increased occupancy level. Decline in occupancy was reported by 30 establishments – 63.8%, whereas in the previous period it was observed even in 42 establishments (89.4%). Taking into consideration the analysed and previous periods, there was a significant change in the number of establishments which reported decline in revenues on service sales – this figure decreased by 12 establishments (from 41 establishments in the previous period to 29 establishments in the analysed period). During the summer holiday, 29.7% of establishments reported increase in revenues, whereas until June that share was only 10.6%. Similarly to the previous period, room rates were usually not changed in the majority of establishments (51% respondents) or were decreased in different % range (decrease ranging 1–29% was reported by the largest number of establishments). The share of foreign guests remained almost unchanged as compared to the previous period. Decline reaching 100% was observed in 19 establishments. As it comes to establishment maintenance costs, the situation was almost similar both in the analysed and previous periods. A pretty large number of the surveyed establishments reported increased costs during the summer holiday (17 respondents – 36.2%), whereas for others the costs remained unchanged (13 respondents – 27.6%).

During the survey, the respondents were asked to name actions they undertook, as well as rules and procedures they implemented in order to prevent negative consequences of Coronavirus pandemic and to guarantee the tourists safety (survey results are presented in table 4). When certain solutions were introduced, the respondents were asked to determine organisational efforts and financial burdens related therewith ranging 1–3,

where 1 – minor, 2 – medium, 3 – considerable. Where no solutions were implemented, the effort was ranked 0. "Not applicable" (N/A) response was possible, if a given facility did not render certain type of services or if it did not possess equipment referred to in the question.

Table 4. Actions undertaken, rules and procedures implemented to prevent negative consequences of Coronavirus, as well as organisational efforts and financial burdens related therewith

Actions/rules/procedures	3	2	1	0	N/A
determining and controlling maximum number of guests based on the number of rooms	16	10	9	4	8
introduction of 1-week stay requirement	9	0	4	18	16
no booking of rooms in the establishment, only self-contained residential premises or cottages available for booking	5	1	1	12	28
introduction of no-cash payments	8	1	10	17	11
separation of safe zones outside the establishment for each accommodated family	12	2	5	13	15
common areas like gyms, playgrounds, recreational facilities were closed for guests	14	6	4	7	16
no extra offers like: excursions, equipment rent, barbecue, educational activities, or health activities	17	2	2	8	18
organisational changes including pathways, increased number of entrances and exits	9	2	2	12	22
minimum number of guests at the reception desk and limited time spent within the check-in area	10	9	5	5	18
disinfecting equipment available for guests after each use	27	6	1	3	10

increased frequency of disinfecting common toilets	25	3	2	5	12
placing instructions and recommendations concerning health safety improvements in relevant places	22	8	9	5	3
implementation of a special procedure to be followed in case of suspected infection	18	4	9	9	7
introduction of special rules to be observed in the establishment and using relevant tools to communicate them	17	7	6	9	8
possible purchase of personal protection equipment/masks in the reception desk	11	5	3	14	14
offering masks	11	4	4	14	14
offering disinfectants in common areas	29	3	8	2	5
room cleaning procedure with additional disinfection of frequently touched surfaces	32	5	7	1	2
regular disinfection of frequently touched surfaces in common areas	33	2	4	2	6
not accommodated individuals were absolutely banned from staying in the establishment	25	6	7	4	5
temperature measurement at check-in	8	4	5	15	15
obligation to fill in a health statement by the guests	7	1	9	19	11
Other, please specify...	2	2	3	11	29

Source: own compilation based on questionnaire survey.

Numerous establishments introduced different solutions aimed at guaranteeing tourists' safety. Large number of entities claimed that implementation of those measure entailed much effort. According to data presented in the table, for over 50% of surveyed establishments organisational and financial efforts were most burdensome in areas such as: disinfecting equipment

available for guests after each use, increased frequency of disinfecting common toilets, making disinfectants available in common areas, room cleaning procedure with additional disinfection of frequently touched surfaces, regular disinfection of frequently touched surfaces in common areas, introducing absolute ban for not accommodated individuals on staying in the establishment. Some solutions were not implemented in a large number of establishments. Those included: obligation to fill in a health statement by the guests, introduction of 1-week stay requirement, introduction of no-cash payments, possible purchase of personal protection equipment/masks in the reception desk, offering masks, temperature measurement at check-in.

To withstand competition and attract customers in the harsh times of pandemic, the following actions were undertaken by the establishments:

- a) full return of advance payment without stating the reason – 31.9% of establishments;
- b) attractive rates – 27.7% of establishments;
- c) guests were encouraged to contact the establishment via e-mail – 8.5% of establishments;
- d) vouchers to be used at any future time were offered instead of booking cancellation – 10.6% of establishments;
- e) vouchers encouraging visit in the establishment at any future time – 14.9% of establishments;
- f) interior disinfection, room ozonation – 2.1% of establishments.

The respondents specified an option chosen by the guests, who had earlier made booking, due to establishments closing. In case of 57.4% of establishments the booking was cancelled/agreement was terminated, whereas in case of 40.4% respondents the booking was postponed.

Asked about actions and initiatives which should be implemented in the future to guarantee guests safety, respondents primarily opted for: proper marketing communication concerning safety (46.8% of surveyed establishments), tourist health passports (21.3%) and safety certificates granted to establishments (19.1%). Other suggestions were presented occasionally.

Respondents expected the following forms of state aid:

- financial aid, assistance dependent of the revenues earned in the preceding years;
- decrease in fixed costs;
- hotels and restaurants re-opening in sanitary regime around summer holiday 2020;
- remission of real estate tax, waste management fees and other financial obligations when a given symbol in the Classification of Business Activities [Polish PKD] is required to close;
- exemption from Social Security [ZUS] and Agricultural Social Insurance Fund [KRUS] payments as well as downtime pays for employees;
- compensation of 75% of revenues;
- resignation from closing rent-related establishments, or alternatively limiting the number of rented rooms e.g., to 50%;
- separate residential premises/cottages should be available for single families, with limiting a residential premises/cottage per one family and with board provided with the observance of sanitary regime;
- re-opening of hotel industry;
- including all entities, also agrotourism establishments, in the financial shield,
- non-returnable loans and grants;
- minimum financial aid of PLN 6000–10000 a month;
- proving free Coronavirus tests for hotel owners;
- payment of 75% of income after taxation earned in 2019;
- grants aimed at extending offer, in particular recreational offer;
- compensation of lost revenues (calculated against similar period in previous year) of at least 60%.

Summary

Assumed research hypothesis was confirmed: micro-entrepreneurship offering overnight accommodation services, due to their sizes, did relatively well while

coping with the COVID-19 restrictions introduced in Poland in 2020, both during the lockdown, as well as spring and summer economy unfreezing. Most of the surveyed accommodation establishments coped with lockdown restrictions and re-opened in the spring. Both during lockdown and between May and June, in the large number of establishments employment level and employees' remuneration remained unchanged, although some entities reported the decline. Massive downsizing or establishments liquidations were not observed, though. Decline in revenues on service sales was the most visible pandemic impact in the majority of establishments. That was caused by shorter stay of guests, lower occupancy level, and in particular, sharp decrease in the share of foreign guests. Despite lower revenues, to attract customers establishments were undertaking different types of actions aimed at guaranteeing tourists' safety, which entailed considerable organisational effort and financial burden. That could result in increased maintenance costs and room rates. However, according to research results, changes in the maintenance costs were much diverse, in some establishments they increased (usually the increase was greater following lockdown), in the others declined or were the same, but room rates remained unchanged or even declined. Attractive rates were one of the tools to withstand competition and attract tourists. In terms of employment level and remuneration, situation of the micro-establishments slightly improved during the summer holiday. Positive increase or lesser decline in occupancy level as compared to the previous period were observed as well. Fewer establishments reported decline in revenues with more entities earning higher incomes, however maintenance costs were higher in the larger number of entities. Certainly, entrepreneurs expected better results in the summer holiday. Unfortunately, due to still unsatisfactory share of foreign guests during the summer holiday, the situation was not much better. As the number of infections continues to increase and there is no visible pandemic extinction, entrepreneurs expect state support, mostly in the form of financial aid, but also in the form actions aimed at decreasing operational costs. They also opt for new solutions that will make it possible to operate their businesses even during the pandemic.

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Increasing Project Effectiveness by Combining the FMEA Method Results and the Costs of Quality (Based on the Example of an Employee Relationship Management Project)

ABSTRACT

Objective: This article presents a project focused on the stabilization of employment in a multi-generational organization in the scope of human resources –specifically, employee relationship management.



Methodology: The type of project was evaluated by taking into account different typological criteria. The employee generations were defined by providing time ranges based on dates of birth. All important project stages were presented according to the newest PMI 2017 methodology, with particular attention to the selection of the model of the project team and the division of tasks within the team. The critical path method was used in the description of the course of project activities.

Findings: The method of determination of project success factors was specified.

Value Added: In accordance with the title of the article, it was, however, shown how one can combine the identification of the level of project risk (using failure mode and effects analysis – FMEA) and the costs of quality to increase the project effectiveness.

Recommendations: Projects of this type are important in these organizations where the risk of loyalty is high, which leads to negative economic implications. The advantages from such projects can, however, affect more than the employer.

Key words: multi-generational organization, human resources, PMBoK®, costs of quality, employee relationship management, FMEA method, project effectiveness

JEL codes: O15, O22, D81

Introduction

The aim of this article is to present the effective advantages of synergy of project risk management and the costs of quality. The method used for determination of the level of risk was FMEA (failure mode and effects analysis), which is based on the previously determined – within the framework of CPM – specification of project activities. A project regarding employee relationship management that belongs to the projects in the scope of human resources was used as an exemplification. A study of the subject literature in the scope of project management and employee loyalty methodologies was used for its elaboration (items indicated in the bibliography).

Material & Methods

The term 'quality cost', known in the organizational and management sciences for over half a century, is used in many areas of economic activities. This category (Costs of Quality – COQ) can, according to the Project Management Institute (PMI) (2017, p. 245), be used in project estimation. It is in chapter VII (Project Cost Management) of the sixth edition of PMBoK®, specifically in the part regarding the estimation techniques and tools, that this term appears for the first time. The assumptions regarding the costs of quality that are specified in detail in the part regarding quality management (chapter VIII PM-BoK®) are utilized for the purpose of assessing the influence of the costs of additional investments (in the product) on the compatibility or incompatibility with the assumptions of the project. They can also indicate the influence of a (short-term) reduction of costs on more frequently occurring problems at a further stage of the product life cycle.

The classification of the costs of quality comprises (PMI, 2017, pp. 282–283):

- the costs of prophylaxis; that is, the costs connected with prevention of bad quality products, services or results of a given project;
- the costs of assessment/verification; that is, the costs connected with measurement, assessment, audit, and verification of the quality of products, services, or results of the project, and
- the costs of (internal/external) mistakes including the costs connected with the incompatibility of products, services, or results of the project with the stakeholder's needs and expectations.

The optimum cost of quality, according to PMI 2017, is the one that balances investments in prophylaxis and assessment with expenses caused by the occurrence of mistakes. The costs of prophylaxis and the costs of assessment should prevent or equalize the costs that belong to the third category, i.e., the costs of internal or/and external mistakes. This dependency with this particular specification is illustrated in table 1.

Table 1. The costs of quality in PMI

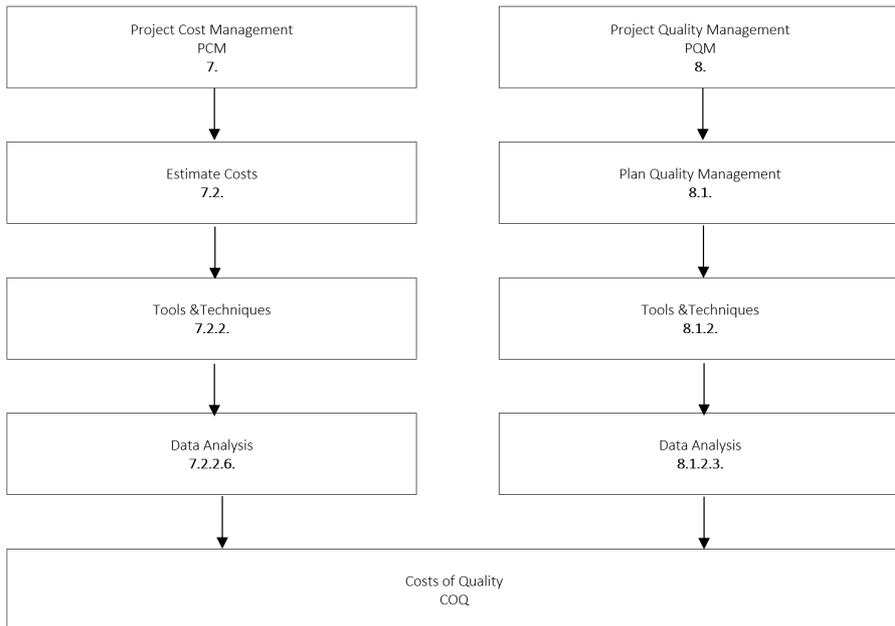
The costs of compatibility	The costs of incompatibility
The costs incurred during the project for the purpose of avoiding mistakes	The costs incurred during the project or after finishing the project intended to remove the mistakes that occurred
The costs of prophylaxis: trainings preparation of documentation equipment time indispensable for correct performance of the task/project The cost of assessment: testing audit/control damage tests	The costs of internal mistakes: reprocessing scrappage The costs of internal mistakes: liabilities towards the customers guarantee repairs loss of order/customer

Source: own elaboration on the basis of PMI (2017, p. 283).

From the table, as well as from the definition of the costs of quality presented in the introduction (Key Concepts for Project Quality Management) to chapter VIII PMBoK®, it is known that the cost of quality comprises all costs incurred in the product lifetime/exploitation: investments in the prevention of incompatibilities with the requirements, the costs of assessment of the product or service considering its compatibility with the requirements and the costs of incompatibility (mistakes/breakdowns), that is, potential costs of repair and/or exchange. The costs of mistakes are divided into the internal costs (observed by the project team) and the external costs (identified after handing over of the product/service to the client). This type of costs is also sometimes referred to as the costs of low quality. The managements of organizations frequently decide to increase the costs of compatibility (investing in prevention of defects) due to obvious advantages in the entire product life cycle. As the feature of the projects is the so-called temporality, the decisions regarding COQ usually belong to program management, portfolio management, the project management office – PMO or operational managers (PMI, 2017, p. 274).

As already mentioned, the category of the costs of quality in the PMI methodology can be found in two topical areas: project cost management and project quality management. These associations are presented in table 2.

Table 2. COQ in project cost management and quality management



* Bold denotes the numbers of chapters of the PMBoK® methodology (PMI, 2017) referring to the costs of quality.

Source: own elaboration on the basis of PMI (2017, pp. 231, 240, 245, 271, 274, 277, 282–283).

It seems that the above illustrated combination of the categories of the costs of quality and the issues of cost management in the project, estimation of costs, quality management, quality planning and data analysis should naturally result in its implementation in the area of risk management, which is discussed in PMI (2017) in chapter XI of the methodology.

In PMBoK® typologies regarding risk management (PMI, 2017, pp. 396, 401, 409, 419, 428, 437, 453) one can find the following areas of obvious

coherence of this area of project management and the categories of the costs of quality. Namely:

- the analysis of data in tools and techniques of planning risk management – the methodology proposes here (PMI, 2017, p. 404) the analysis of the tolerance of risk by project stakeholders;
- planning of the costs of the project, planning of the quality of the project and cost estimation (entrance of the process) and data analysis (tools and techniques) in the identification of risks in the project – with regard to planning of the costs of the project, the methodology “cross-refers” (PMI, 2017, p. 411) to the plan of cost management (PMI, 2017, p. 238); with regard to planning of the quality in project (PMI, 2017, p. 411), to quality management plan (PMI, 2017, p. 286); regarding cost estimation in the project (PMI, 2017, p. 412), to cost estimation in project cost management (not tools and techniques, but a solution) (PMI, 2017, p. 246), whereas regarding data analysis, it proposes (PMI, 2017, p. 415) the root-cause analysis (PMI, 2017, p. 292), the analysis of assumptions and limitations, SWOT analysis and the analysis of documentation (PMI, 2017, p. 143);
- data analysis in tools and techniques of performing the qualitative risk analysis –PMBok® methodology, instead of the analysis of the costs of quality, proposes (PMI, 2017, p. 423): the assessment of risk data quality, the probability of occurrence and the assessment of the results of risk as well as the assessment of other parameters of risk;
- estimation of costs (entrance) and data analysis (tools and techniques) in the process of performing quantitative risk analysis – with regard to the estimation of costs, the methodology indicates the process of project cost management (exit) (PMI, 2017, p. 246), and with regard to data analysis, the Monte Carlo analysis (PMI, 2017, p. 433), the Tornado diagram (PMI, 2017, p. 434), the analysis of the decision tree (PMI, 2017, p. 435) and the influence diagrams (PMI, 2017, p. 436);
- data analysis (tools and techniques) and planning of cost management and quality management (exit) in the area of planning reaction to risk – in-

stead of data analysis, PMI first places (PMI, 2017, p. 446) the analysis of alternative solutions and the analysis of costs and advantages (PMI, 2017, p. 282), listed next to the costs of quality in the part devoted to the planning of quality management; instead of the planning of cost management, PMI proposes (PMI, 2017, p. 447) the plan of cost management (exit) (PMI, 2017, p. 238) and, in spite of planning of quality management, the quality management plan (exit) (PMI, 2017, p. 286);

- data analysis (tools and techniques) in the process of risk monitoring and control – PMI first proposes in this scope (PMI, 2017, p. 456) the analysis of efficiency and the analysis of reserves (PMI, 2017, p. 245); they are listed directly before the costs of quality in the part regarding the process of cost estimation.

Each of the listed items of “connection” (a total of 12 processes in 6 out of 7 groups of processes) enables implementation of the category of the costs of quality to particular groups of the processes of risk management; it is especially emphasized each time (in particular, descriptions of processes) in PMBoK® methodology that the listed tools and techniques of management proposed are not the only ones. It is worth taking into account the many prerequisites and develop the processes of project risk management proposed by PMI (2017, p. 396) by the category of the costs of quality.

Current state of knowledge

ERM, i.e., employee relationship management, means the pro-loyalty strategy for employees that builds the company's relationship capital, the strategy of building long-term relationships with employees, and the strategy of binding (even former) employees with the organization (Lipka, 2011; Strohmeier, 2013; Al-Khozondar, 2015; Chaubey, Mishra, & Dimri, 2017). ERM constitutes an equivalent of customer relationship management (CRM), but with regard to internal customers (to employees) (Devamaindhan, 2014). ERM simultaneously refers to the term relationship marketing (RM) (Groenroos, 1996), which

is of both a detail and universal nature. It is based on behavioural variables (trust, habit, commitment – especially emotional commitment). According to some authors, it may even become acknowledged as the next stage of development of the personal function, after the stages of (Klauffke, 2014):

- bureaucratization (since app. 1960);
- institutionalization (since app. 1960–1970);
- humanization (app. 1970–1980);
- economization (app. 1980–1990);
- entrepreneurship, strategic management (since app. 1990).

The projects in the scope of ERM are important for the following reasons:

- demographic (“Fighting for talents” is intensified because of the decrease of the share of people in the production age and the process of ageing; the necessity to integrate personnel ethnically and generationally is diversified due to globalization);
- economical (there is a minimization of the loss of knowledge and goodwill; there is a focus on creativity and innovativeness that favours the stability of employment, i.e., work for the benefit of a particular organization. This stability is currently low: the median of job seniority at one employer according to BLS (Bureau of Labor Statistics, 2018) research is currently 2.8 for employees aged 25–34 and 4.2 for all employees above 16 years of age; for people employed in Poland in rank and file positions, the job seniority is only two years according to the research of the company Sedlak & Sedlak (Pokrywka, 2012). Therefore, the present is spoken of as the post-employment era (Clowes, 2016);
- social (there is a transformation of values in the form of return to individualization and, therefore, resignation from work, which, for example, fails to provide a work-life balance);
- image (image is a strategic dimension for the organization (Melde & Benz, 2014) that favours the attraction of talent (Ahmada & Dauda, 2016).

The ERM performance cannot take place within the framework of contemporary performances of HR functions as the modern career models

fail to assume work in one organization (Caraher, 2017) and therefore – the “standard” performance of the personal function – the development of employees, which:

- at the operational level means performance of the instruments of development (trainings, mobility, enrichment of the content of work) with regard to particular employees;
- at the tactical level is identical to identification of the directions of employees’ development and the type of developmental undertakings, and
- at the strategic level is approached by planning career paths.

The ERM projects should refer to such dimensions of the employee-organization relationship as: the structure of the relationship, the strength of the relationship, and revenues generated by the relationship. They are strictly connected with one another, which is illustrated *inter alia* by defining the function (strength) of the relationship by granting recommendations, which increases the revenues of the organization.

The main aim of the ERM projects must be the arousal of employees’ interests in staying longer in the organization, which will influence the decrease of loyalty risk. The assumption is that this type of personal risk – next to the risk of employees’ deficits, the risk of qualification adjustment and the motivational risk – is subject to formation (Ledig, 2008, pp. 53–55).

As for placement of ERM projects in the project typology, they should be considered as:

- internal (origin of the order);
- regarding human resources (functional area of the organization);
- of object nature (orientation);
- medium (size);
- developmental (the purpose of performance);
- independent (combination with other undertakings);
- financed from own capital (the method of financing);
- private (the type of investor);
- intraorganizational (organizational range);

- domestic (geographical range);
- strategic (the meaning for the organization);
- medium-complicated (performance difficulty);
- conceptual and performative (scope);
- of medium degree of novelty (the degree of novelty);
- requiring low-advanced technology (the degree of used technology);
- finalizing (the scope of performance of strategic aims);
- performed at a regular pace (the pace of performance);
- feasible (feasibility of the project);
- performed in de facto standards (the dominant standard);
- requiring teamwork (organization of works on the project);
- performed according to the waterfall model (the project management cycle);
- of CSR nature (commercialization of the product);
- aimed at delivering useful results (defining the project results);
- neutral as to the results (profitability);
- of high quality (expected quality of the project);
- of high efficiency (expected efficiency of the project);
- of investment nature (increasing the competitive potential of the organization) and of social nature;
- connected with high risk (the risk of project work).

From the perspective of criteria presented in the subject literature by A.A. Leybourne and R.D.H. Warburton (2012), the projects repeatedly need both high creativity of the structure of the delivered product and high creativity of the management process, which is connected with, among others, a certain flexibility of defining expectations and, thus, the possibility of a selection of tools, with improvisational style of activity. Nota bene, one should attest that the strand of the theory of works that explains creativity in project management is neglected. In addition, one can indicate the theories that describe such management. We can distinguish here the Gestalt approach (that belongs to classical theories of the creative process) (Nęcka, 2012) that

points to the necessity of supplementation of the problem situation with the lacking links (e.g., with full specification of the stakeholders). Then, the “creative investment” theory by R.J. Sternber and T.J. Lubart (1995) indicates what risk is connected with “expensive” (e.g., requiring cost-consuming analyses) and with “cheap” buying. One should also mention the M. Csikszentmihalyi conception “individual, field, domain” (Csikszentmihalyi 1988; 1990; 1996), because:

- the domain can be identified with the type and content of the project;
- individual – with the project team, and
- the field – with individuals who verify the fulfilment of requirements and the criteria for exiting the project, that is, its acceptance.

The term of acceptance also occurs in another system (similar to the two aforementioned) conception of creativity, i.e., the D.K. Simonton’s conception “chance and configuration”. Transferring its content to the area of project management would mean that obtaining project acceptance would require:

- project stakeholders’ knowledge about cognitive components;
- ordering of the cognitive representation of reality;
- coherence of the stakeholders’ cultural codes;
- reconstruction of the original configuration of cognitive components.

Finally, M.A. Runco’s two-layer model of creativity, due to the variables taken into account, can be considered in the area of project management. The two layers are ideational fluidity (the number of reported ideas) and ideational flexibility (the variety of reported ideas) because they play a significant role by the selection of project solutions. In general, the use of creativity in project management is explained by the ambidexterity theory (Tushman & Oreilly, 1996) that dictates a combination of advantages from the routine (of the process and project structure) and creativity.

The analysed projects should consider all employee generations that constitute peculiar segmentation criteria (it was assumed that the traditionalists are persons born in the years 1914–1945, baby boomers in the years 1946–1964, Generation X – 1965–1980, Generation Y – after 1981, Generation Z – after 1995) and extend, in accordance with the employees’

life cycles in the organization (Richmond, Rothboeck, & Henschel, 2017), to all phases of the employees' life cycles in the organization (apart from the initial phase – due to lower loss caused by the employees' departures at this time), and even comprise relationships after cessation of work in the organization. This means that the project is coherent with the strategy of increasing (generational) diversity of human capital as one of the possible personal strategies distinguished, in addition to the strategy focused on decreasing the degree of diversity (e.g., in connection with high expenditures for it or with the defensive strategy) and the strategy of matching the degree of team diversity to the structure of customers (e.g., their generational belonging), due to the degree of deriving from the diversity of human capital. Moreover, it is coherent with such personal strategies as:

- the offensive strategy;
- the quantitative and qualitative strategies;
- the strategy oriented to "entrance";
- the strategy of maximization of human capital value;
- the strategy focused on the a.m. (on generational "segments"; therefore, it is not coherent with the non-diversified or individualized strategy);
- the strategy of focusing on talents (not coherent with the strategies of "question marks", "dogs", and "cash cows" – see the BSC matrix with personal portfolio);
- the strategy of transformation (which – contrary to the strategy of auto-selection, transaction and autonomisation – combines the constructivist approach to employees with the model of human capital that assumes intensity of investing in this capital).

The performance of the project in accordance with the assumptions of the cascade model (Kneuper, 2015) means that:

- the project life cycle consists of an infinite number of phases that end with a particular result;
- it is impossible to start another phase without finishing the previous one (referring to the performance of products for particular generations);

- there is no feedback between the phases (also referring to the performance of products for particular generations);
- the project's final results must be in accordance with its initial specification.

Below is the ERM project charter (the further part of the text discusses the elements that require more specific descriptions – tables 4 and 5) for the most valuable employees – MVE.

Table 3. The elements of the employee relationship management* project charter for the most valuable employees** in the multi-generational organization

The elements of the project charter according to PMI	Characteristics
Aim of the project	Transformation of loyalty of employees from various generations into partner loyalty***; recovering of lost valuable employees; keeping bond after employees exit from the labour market****
Sponsor of the project	The organization that performs the project
Source of financing	The organization that performs the project
Stakeholders of the project	Table 3
Requirements	Creation of products that correspond to the strategy of diversification (separate products from the ERM scope for MVEs from different generations)
Measurable aims and criteria of success	Table 4
Project manager, model of structure of project team	Isomorphic structure; members of the team – HR specialists; project manager – economic analysis specialist
Milestones	In table 5: 1. Identification and analysis of MVEs from the given generation before the project; 2. Determination of the product for MVEs for the given generation; 3. Summary of tests of the protocol of critical events and cohort analysis of MVEs from the given generation; 4. Summary of the results of comparative analyses of the variables determined for MVEs from the given generation before and after implementation of the project; 5. Analysis of departures of MVEs and their clients; 6. Calculation of project cost effectiveness for MVEs from the given generation; 7. Synthesis of the results of all analyses of team members and the manager

Key achievements and limitations	Number and type of rewards and terms of receiving rewards by MVEs; number of possible promotions dependent on the structure of the organization
Criteria of acceptance	Extension of the length of the phase of growth, maturity and decline of employees' life cycles in organization****; increase of average LTV value*****; increase of MVEs that represent partner loyalty and unconditionally loyal MVEs; decrease of departures of MVEs; decrease of multi-loyal ***** MVEs; decrease of departures of customers serviced by MVEs; decrease of the number of inadequate relationships to critical events regarding MVEs; increase of the value of recommendations; stabilization or increase of the share of the company in the market; decrease of subjectively perceived expenditures for management; increase of work efficiency of MVEs; increase of MVEs returning to the company; effects of the projects are higher than the expenditures
Project risk	Table 6
Costs of exiting from the project	Table 5

Explanations:

*Employee relationship management – ERM;

**Most valuable employees – MVE;

***Partner loyalty is defined by three internal mechanisms of loyalty: trust, routine and organizational commitment, which in the case of partner loyalty, are simultaneously high;

****The project fails to comprise obtaining loyal employees from different generations, which constitutes the routine HR function;

*****The growth phase will be identified as time until the employee reaches the average work efficiency for the given category of the employed persons, and the maturity phase, as time from reaching efficiency at this level until the beginning of a permanent decrease of this efficiency;

*****LTV (lifetime value) is calculated according to the pattern that refers to E. Flamholtz's discounted cashflow method (1985): $-K + p_1(1+k) + p_2(1+k)^2 + \dots + p_n(1+k)^n$, where K is the cost of work, k is the cost of capital, and p is the cash flow at work position;

*****Multi-loyalty is connected with simultaneous work for the benefit of different organizations and can be operationalized through the time of work devoted to them.

Source: own elaboration.

The tasks to be performed in the project can be structured according to their addressees; thus, one can divide them into 5 areas of responsibility, referring to such number of employee generations.

Taking into account the a.m. areas of responsibility, i.e., their relative separability, the adequate option with regard to the structure of the project

team seems to be the isomorphic structure. It has numerous advantages (Turner, 2016, pp. 340–345), among others, clear division of duties, transparency of information flow, no greater integrative and communicative barriers, independence of the contractors of tasks at ease of exercising the control function by the project manager, and shortened time of performance of the entire project thanks to simultaneous work over the products for various employee generations. It seems that the project team should consist of the minimum of 6 persons (the manager and the persons responsible for the performance of ERM targets for MVEs from five individual generations). The persons responsible for particular generations shall have the following tasks (see the table):

- participation in the training;
- determination of the phase of life cycle in the organization for each MVE;
- identification of the type of loyalty of each MVE;
- identification of the phase of loyalty of each MVE;
- identification of the size of multi-loyalty among MVEs;
- determination of the number of promotions for each MVE;
- determination of the number of serviced customers for each MVE;
- determination of the number of recommendations for each MVE;
- testing of satisfaction and needs of MVEs in factors that influence their staying in the company;
- determination of the list of attractive rewards for MVEs and the principles of obtaining them according to the assumptions and limitations imposed by the project manager;
- keeping the protocol of critical events regarding MVEs;
- carrying out of the cohort analysis (cohort table, survivorship curve, survivorship indices) taking into consideration sub-cohorts: the phases of life cycle in the organization, the type of loyalty, the phase of loyalty, and loyalty towards one or more numbers of loyalty;
- determination of averages and medians for particular phases of the life cycle in the organization;

- determination of the proportion of MVEs who were promoted (before the project and after its implementation);
- comparison of efficiency of work from the moment of implementation of the project with efficiency, which was the basis of MVE identification;
- comparison of the dynamics of the number of customers serviced by MVEs (before the project and after its implementation);
- comparison of the value of recommendations of MVEs (before the project and after its implementation);
- comparison of the satisfaction from work of MVEs (before the project and after its implementation);
- analysis of departures of MVEs;
- calculation of project cost effectiveness for MVEs from the given generation.

Project Manager – apart from the task of supervision (see the table):

- performs training of the members of the team;
- elaborates the lists of employees from particular generations who meet the requirements of MVEs (MVEs are employees that bring the company the highest revenues; therefore, the ERM project is not directed to others distinguished (Stotz, 2007) as most growable employees (MGE) and below zero employees (BZE));
- determines the terms of rewards for MVEs that are loyal towards the company;
- accepts the proposals of rewards for each generation of MVE;
- analyses the dynamics of the costs of trainings;
- collects and analyses data regarding expenditures for management before and after implementation of the project;
- analyses the correlations between stabilization of employment of MVEs and the dynamics of share in the market;
- collects and analyses data regarding the advantages of the project perceived by various stakeholders;
- collects and analyses data regarding the average LTV;

- estimates the general project cost effectiveness and formulates adequate recommendations.

Table 4. The stakeholders of the employee relationship management project for the most valuable employees in the multi-generational organization

Stakeholders	Problems	Expectations	Advantages
Company's Management	Departures of MVEs who generate profits higher than the average and who dispose of unique or distinctive qualifications/skills, resulting in: instability of employment, loss of clients**, lower work efficiency***, lower risk of knowledge loss, higher training costs	Extension of the time of employment of MVEs in the organization and their higher affective commitment****; higher resistance to devaluation by competition in the work market; higher team morale	Higher organizational effectiveness*; higher market position; better image in the work market; advantages from recommendations; lower expenditures for controlling employees; satisfaction from behaviour compliant with the theory of organizational balance and social exchange theory*****; and even affective exchange theory*****
Employees covered by the project	High transaction costs and results connected with continuous work changes (the cost of learning new things, adaptive costs, the risk of worsening own socio-economic status, the cost of return of training fees and contractual penalties in the foregoing organization)	Obtaining additional benefits, deferred remunerations, trainings, promotional possibilities; annuities from the organizational knowledge; company's aid after cessation of work	Improvement of employee image as a result of recommendations of other employees for the company; stability of emotional relationships in the work environment; feeling of fair play behaviour towards colleagues; satisfaction from meeting the psychological contract with the organization

Families of the employees covered by the project	Necessity of permanent adaptation to changeable conditions of the spouse's/partner's work	Obtaining stability that favours family development	Avoiding stress connected with changes in the place of work and residence
Employees that are not MVEs, not covered by the project	Increased workload after departure of MVEs from the organization	Pursuing inclusion in the circle of MVEs	Higher work effects caused by better motivation to work
Members of the project team	Instability of attitudes connected with loyalty	Providing arguments for the benefit of employment stability in an unstable world, which could constitute „signposts“ in own professional life	Learning how to take material and non-material advantages from stable employment
Former employees	Failure to find satisfying work after departure from the company; feeling of monotony after joining professionally passive resources	Possibility to return to the company	Possibility to perform work

Explanations:

*The ERM project resulting from the ERM strategy launches behavioural outcomes that transform into performance outcomes that impact its financial results;

**The so-called loyalty spiral (Schueller & Fuchs, 2005, p.23);

***The so-called loyalty effect (Schueller & Fuchs, 2005, p.189);

****The affective commitment reflects emotional relationships to the organization where the employee feels well and wants to stay; commitment also comprises (Meyer & Allen, 1997) continuance commitment and normative commitment;

*****Silvalogthasan, Hashim (2013–2014);

*****Lawler (2001).

Source: own elaboration.

Table 5. Product, result, influence – the employee relationship management project for the most valuable employees in the multi-generational organization

Aspects	Targets	Standards/indices	Sources of obtaining information
Product	Extension thanks to the project of the loyalty package of the employees' life cycles in the organization through extension of all its phases, apart from the initial phase***	<ul style="list-style-type: none"> - cash value of the rewards for MVEs from particular generations who represent different types and phases of loyalty*; - the number of rewards according to their types**; - attractiveness of the rewards; - probability of obtaining the rewards; - transparency of the principles of obtaining the rewards; - compatibility of the principles of granting the rewards with statements regarding motivation 	Personnel and project data



<p>Result</p>	<p>Gaining advantages from the increase of the median of work seniority in the organization****</p>	<ul style="list-style-type: none"> - the average length of the phases of growth, maturity, and decline for all the employees; - the median of the phases of growth, maturity, and decline for all the employees; - the average length of the phases of growth, maturity, and decline separately for the employees of the traditionalist, baby boomer, Generation X, Generation Y and Generation Z generations; - the median of the phases of growth, maturity, and decline separately for the employees of the generations of the traditionalists, baby boomers, Generation X, Generation Y and Generation Z generations; - the medium value of LTV*****; - the proportion of employees that represent partner loyalty***** (total and from particular generations); - the dynamics of departures of MVEs (total and according to the generations) with regard to whom the project was applied; - the dynamics of MVEs unconditionally and conditionally***** loyal (total and according to the generations); - the dynamics of employees according to the phases of loyalty***** (total and according to the generations); - the dynamics of MVEs that represent multi-loyalty*****; - the dynamics of MVEs who took higher work positions/received higher remunerations (total and according to the generations) - the type of departures of MVEs according to the reasons: <ul style="list-style-type: none"> - the dynamics of the customers' departures; - the dynamics of work efficiency; - the dynamics of the costs of trainings; - the dynamics of the proportion of persons satisfied with work (total and from particular generations); - the dynamics of the number of turning points (critical events) in relationships with the employees, which were not properly reacted to; - the dynamics of the number of correctly selected***** employees from the recommendations of MVEs; - the dynamics of the share in the market; - the dynamics of the managers that assess expenditures for management as low; - the dynamics of MVEs who returned to the company (total and according to the generations); - the project cost effectiveness***** 	<p>The results of surveys (of employees and managers), including using the scales of permanent total and the scales of intentions; cohort analysis; the exit interview analysis; the association analysis (that examines the directions and frequency of employees' departures); internal reports; personnel and recruitment statistics</p>
<p>Influence</p>	<p>Modification of attitudes towards longer bond with one employer</p>	<ul style="list-style-type: none"> - the proportion of current and former MVEs who perceive advantages (in general and according to their types – see table 3) from longer employment in one organization as significant; - the dynamics of MVEs (total and from particular generations); - the perceived cognitive, affective and behavioural***** aspects of greater stability of employment from the employees' perspectives 	<p>The results of surveys; personnel statistics; the results of interviews with the members of the project team (before undertaking the project and after its performance)</p>

Explanations:

*For example, conscious loyalty (with the occurrence of trust but no habit and organizational commitment) or reasonable loyalty (where trust and habit are not accompanied by commitment);

**They are based not on coercive power but on remunerative power or normative power;

***Its shortening means quicker obtaining of better work effects;

****The median is the work seniority above and below, which is the equal number of employees of the organization;

*****See explanations under the table 2;

*****See explanations under the table 2;

*****Conditionally loyal employees are those who, after satisfaction of their additional claims, remain in the organization;

*****The phases of employees' loyalties are similar to the customers' loyalties: cognitive loyalty, affective loyalty and action loyalty (Oliver, 1999, pp. 33–34);

*****See explanation under the table 2;

*****Those who achieved specific work seniority in the organization;

*****Effectiveness is –when modified by the risk factor –the quotient of the effect of the economic project of the extended life cycle of employees in the organization (differences between LTV before and after project implementation) and the expenditures for the project;

*****These aspects are included in the attitude regarding loyalty towards the organization.

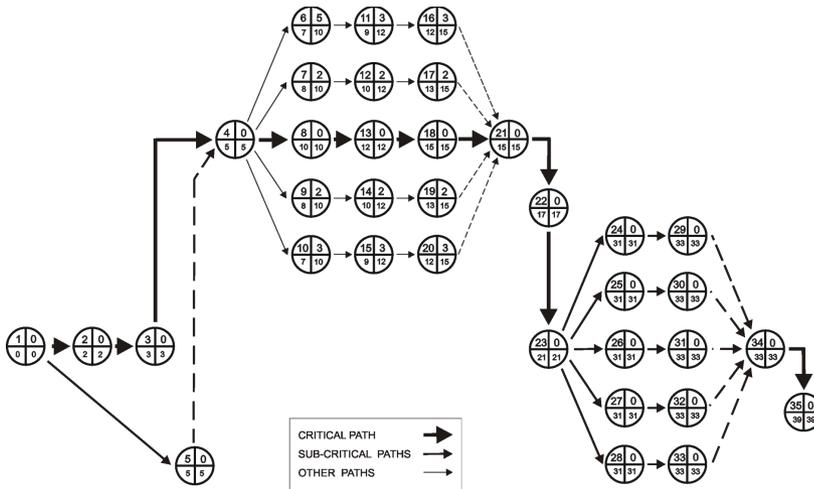
Source: own elaboration.

Table 6 presents the list of activities that must be performed under the project in their temporal connection, whereas figure 1 presents the system of activities. The basis for their construction is the critical path method (CPM). The following tables (7 and 8) identify the level of project risk as well as the methods of its decrease. The FMEA method was applied to determine the level of risk and to present the methods of minimization of the incompatibilities of processes with the requirements. The method was elaborated in the sixties of the 20th century in the USA. Its universal character also allows for its use in the area of human resources. However, one must make the following assumptions:

- instead of the technological sequence, analyse the sequence of personal processes;
- incompatibilities/mistakes refer to activities performed by the members of the project team;

- equate probability with subjective probability, as defined in psychology and behavioural economics;
- treat an employee as “an internal customer” and a main project stakeholder.

Figure 1. The system of activities to be performed under the project



Source: own elaboration.

Table 6. The list of activities of the employee relationship management project for the most valuable employees in the multi-generational organization

Specification of activity*	The symbol of activity	Duration of activity (in weeks)	Preceding activities	Following activities
Appointing the members of the project team and determination of their tasks and scopes of responsibility	V1,2	2	–	V2,3
Familiarization of the members of the team with the target and stakeholders as well as project requirements (including – the terms of rewards for loyal MVEs)	V2,3	1	V1,2	V3,4

Training the members of the team in the scope of knowledge about generations and pro-loyalty strategies	V3,4	2	V2,3	V4,6; V4,7; V4,8; V4,9; V4,10
Elaboration of the lists of employees from particular generations who meet the terms for MVE	V1,5	5	–	V4,6; V4,7; V4,8; V4,9; V4,10
Specification of the characteristics for each MVE from the traditionalists generation: the phase of life cycle in the organization, the number of promotions, the number of serviced customers, the phase and type of loyalty, the value of recommendations, and the existence of possible multi-loyalty	V4,6	2	V3,4	V6,11
Specification of the characteristics for each MVE from the baby boomers generation (see above)	V4,7	3	V3,4	V7,12
Specification of the characteristics for each MVE from Generation X (see above)	V4,8	5	V3,4	V8,13
Specification of the characteristics for each MVE from Generation Y (see above)	V4,9	3	V3,4	V9,14
Specification of the characteristics for each MVE from Generation Z (see above)	V4,10	2	V3,4	V10,15
Testing satisfaction and needs of MVEs from the traditionalists' generation with regard to loyalty	V6,11	2	V4,6	V11,16
Testing as above for the baby boomers' generation	V7,12	2	V4,7	V12,17
Testing as above for Generation X	V8,13	2	V4,8	V13,18
Testing as above for Generation Y	V9,14	2	V4,9	V14,19
Testing as above for Generation Z	V10,15	2	V4,10	V15,20
Elaboration of the proposal of a product (reward) for MVEs from the traditionalists generation and the principles for obtaining it	V11,16	3	V6,11	V16,21

As above for the baby boomers generation	V12,17	3	V7,12	V17,21
As above for Generation X	V13,18	3	V8,13	V18,21
As above for Generation Y	V14,19	3	V9,14	V19,21
As above for Generation Z	V15,20	3	V10,15	V20,21
Acceptance of the proposals of rewards by the manager	V21,22	2	V16,21; V17,21; V18,21; V19,21; V20,21	V22,23
Communication with MVEs; implementation of ERM products for MVEs from particular generations	V22,23	4	V21,22	V23,24; V23,25; V23,26; V23,27; V23,28
Keeping the protocol of critical events, the analysis of departures, the cohort analysis, and the comparison of variables before and after implementation of ERM for the traditionalists	V23,24	10	V22,23	V24,29
As above for the baby boomers generation	V23,25	10	V22,23	V25,30
As above for Generation X	V23,26	10	V22,23	V26,31
As above for Generation Y	V23,27	10	V22,23	V27,32
As above for Generation Z	V23,28	10	V22,23	V28,33
Estimation of project cost effectiveness for the traditionalists	V24,29	2	V23,24	V29,34
As above for the baby boomers generation	V25,30	2	V23,25	V30,34
As above for Generation X	V26,31	2	V23,26	V31,34
As above for Generation Y	V27,32	2	V23,27	V32,34
As above for Generation Z	V28,33	2	V23,28	V33,34
Estimation of general cost effectiveness on the basis of all analyses of all team members	V34,35	6	V29,34; V30,34; V31,34; V32,34; V33,34	-

Explanation:

*Duration of activities will be shorter by their particular divisions, which, due to the framework of the article, is impossible to be listed in detail.

Source: own elaboration.

Table 7. The types of risk* connected with the performance of the ERM project for MVEs in the multi-generational organization

Activity Symbol (Table 5)	Mistake	Result	Reason	P	S	D	C	Corrective activities
V1,2	Wrong selection of the project team members	Multiplication of errors by project activities	Improper selection of the methods for selecting the members of the team	9	4		360	Extension of the spectrum of methods of selection by the methods with highest accuracy (a)
V1,2	Overlapping of the areas of competence	Conflicts in the project team	Under-specification of the general task	5	2	3	30	Correction of the division of tasks (b)
V1,2	Failure to consider all the tasks	Failure to perform all of the indispensable project activities	As above	7	7	6	294	Further specification of the general task (c)
V2,3	Failure to understand the requirements of the project	Failure to meet the specifications of the project	Failure to think over the details of information transfer	8	5	6	240	Implementation of the possibility to obtain additional explanations (d)
V3,4	Insufficient training efficiency	Mistakes in analyses	Providing too much information in a short period of time	5	2	6	60	Procurement of additional training materials (e)
V1,5	Mistakes in identification of MVEs	Wrong determination of the basic project stakeholders	Failure to understand the idea of MVE	8	6	5	240	Further specification of the criterion of identification of MVEs (f)

V4,6; V4,7; V4,8; V4,9; V4,10	Mistakes in characteristics of MVEs from the traditionalists generation and/or baby boomers generation and/or Generation X and/or Generation Y and/or Generation Z	Wrong elaboration of the project products	Insufficient analytical experience	5	6	5	150	Elaboration of a guide for the members of the team with the examples of performing analyses (g)
V6,11; V7,12; V8,13; V9,14; V10,15	Failure to obtain authoritative results for the tests of satisfaction and needs of the employees' generations	Wrong elaboration of the project products	Insufficient experience in constructing testing tools	5	5	5	125	Additional consultations of testing tools (h)
V11,16; V12,17; V13,18; V14,19; V15,20	Corrections of the proposals of the product for the traditionalists generation and/or baby boomers generation and/or Generation X and/or Generation Y and/or Generation Z (e.g., promotion paths, raises)	Impact on project effectiveness	Insufficient experience in interpreting the test results	4	4	6	96	Re-analysing of the test results (i)
V21,22	Introduction of modifications to the proposals of rewards	Impact on the date of finishing and on the costs of the project	Deficit of the discussion	4	3	9	108	Discussion within the framework of the project team (j)

V23,23	Low communication efficiency	Inadequate assessment of the project by the stakeholders	Wrong selection of the communication channel	7	2	5	70	Introduction of the helpline (k)
V23,24; V23,25; V23,26; V23,27; V23,28	Mistakes in analyses regarding MVEs from particular generations	Wrong project assessment	Insufficient experience	5	5	6	150	Repeating the analyses (l)
V24,29; V25,30; V26,31; V27,32 V28,33	Mistakes in calculations of project effectiveness for MVEs from particular generations	Wrong project assessment	Unreliability	6	6	6	216	Verification of calculations (m)
V34,35	Mistakes in calculations of project general effectiveness	Wrong project assessment	Overworking of the project manager	5	4	10	200	Verification of calculations (n)

Explanation:

*Risk determined according to the FMEA method with the following assumptions:

P – probability of the occurrence of mistakes (1 – very low; 2–4 – low; 5 – medium; 6–9 – high; 10 – very high); S – detectability of mistakes (1 – almost certain; 2–4 – not difficult; 5 – medium difficulty; 6–9 – difficult; 10 – undetectable mistakes); D – severity of the mistakes (1 – imperceptible; 2–4 – hardly perceptible; 5 – mistakes that may determine the project’s effect; 6–9 – mistakes seriously influencing the project’s effect; 10 – mistakes very seriously impacting the project’s effect).

Source: own elaboration.

Table 8. The costs of quality that decrease the ERM project risk for MVEs in the multi-generational organization

The types of costs of quality (according to Table 1)	Corrective activities (according to Table 6)
The costs of prophylaxis	a, c, d, e, f, g, h, k,
The cost of assessment	j,
The costs of internal mistakes	b, i, l, m, n
The costs of external mistakes	–

Source: own elaboration.

According to tables 7 and 8, the project risk is generated at each phase of its performance; therefore, at each stage, one can and has to manage it, among others, using the idea of the costs of quality.

Results

Implementation of the ERM projects proves maturity of the personal function in the company. Projects of this type allow for (Lipka, 2011) the following offensive targets to be acquired:

- obtaining/recovery of employees, customers;
- increasing of the share of loyal employees in their general number;
- increasing among the loyal employees those who represent the partner loyalty;
- increasing organizational engagement of employees;
- obtaining equivalence of exchange: employee – organization, as well as the following defensive targets:
- increasing the median of employees' work seniority in the organization;
- increasing of the sphere and/or time of tolerance of employees of various inconveniences (e.g., "freezing" of remunerations) in the periods of recession.

According to table 6, the project risk is particularly high for the activities V1,2. Therefore, one should take particular care of the WBS (Work Brown Structure) (see PMI, 2017, p. 570). Moreover, one should take care of expenditures in the form of the costs of quality, which can decrease the risk (table 7). In the discussed example, the costs concentrating on the costs of compatibility (see table 1) and the costs of incompatibility regard only the costs of internal mistakes (incurred before presentation of the project results to the stakeholders). One should pay attention to the fact that PMI 2017 uses 4 categories of costs (table 1). This classification resembles (Feigenbaum, 1991):

- W. Masser's PAF (prevention, appraisal, failure) model;
- A.V. Feigenbaum's PAF model or

- the costs of quality according to ASQC (the American Society for Quality Control).

However, this classification differs from other classifications such as the John Bank's model that also distinguishes the costs of exceeding the requirements (overquality) as an additional – next to the costs of internal mistakes and external mistakes – category of costs of incompatibility, and moreover, a one-element set, that is – the costs of lost advantages. It seems that this type of extension of the category of costs of quality would be worth considering in the PMI methodology. An example of the costs of exceeding the requirements for the project analysed in this article can be the costs of performing within the framework of the cohort analysis (justifying the undertaking of the project and, later, proving its results) too many partial analyses in the form of, for example:

- distinguishing too narrow ranges of time for work seniority in the cohort table;
- defining not only the half-life of the group but also the deficit indices referring to their more particular values;
- distinguishing too many sub-cohorts.

Therefore, the costs of exceeding the requirements can occur in the projects and lead to an increase of the costs of the projects and no increase in their effects, i.e., making the performance of the projects less effective (in the relationship of effects to expenditures). Whereas, the costs of lost benefits are, for example, the costs of using too few instruments in relation to former employees and the failure to include in the project the so-called boomerang employees. Incurring such costs does influence the increase of expenditures for the performance of the project, but – to a greater degree – it influences the increase of its effects, which is beneficial to the project's effectiveness.

The conception of the costs of quality used in project management reflects evolution from the traditional paradigm of the costs of quality that grew on the ground of the production sphere to the new paradigm connected with the process approach (Schneiderman, 1986).

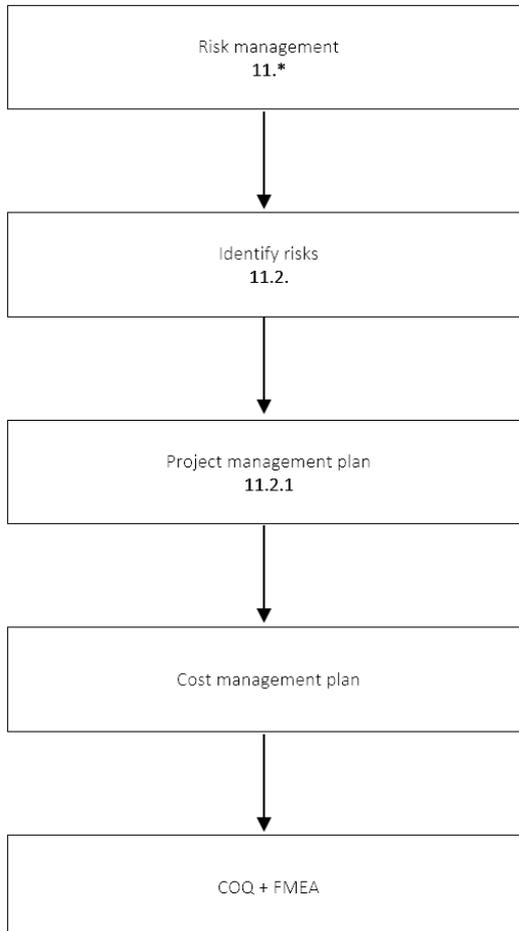
The application of FMEA that uses the specification of activities distinguished for CPM purposes and then the application of the list of mistakes from FMEA to identify the costs of quality allows the increase of the scope of use of the project effects without increasing the expenditures for the project's performance, which thus increases the project effectiveness. Therefore, it is proposed to extend the PMI methodology in the scope of risk management by the category of the costs of quality identified using FMEA at least in the six areas of evident coherence listed in the introduction and illustrated in tables 9–14. It seems that there are no barriers for using this type of proceeding in various (not only HR) projects. The determinants of effectiveness are of the following nature:

- purposeful (directed to the efficiency of the undertaken activities);
- endogenic (regarding organization);
- static (stable in certain periods);
- quantitative (measurable – allowing quantitative comparison of risks before and after application of the costs of quality);
- partial (referring to particular activities/processes);
- direct (not assuming occurrence of variables that moderate the relationship: risk, the costs of quality, effectiveness).

The mentioned method of increasing project effectiveness is an efficiency method (increasing of project effects despite not increasing the expenditures for the project). It is not the following:

- a savings method (postulating the decrease of expenditure by maintaining project effects);
- a regressive method (connected with the decrease of expenditures and project effects, although the latter ones, to a lesser extent);
- an intensive method (assuming increasing of results by decreasing expenditures for the project) or
- an extensive method (consisting in increasing project effects to a larger degree than increasing expenditures for the project).

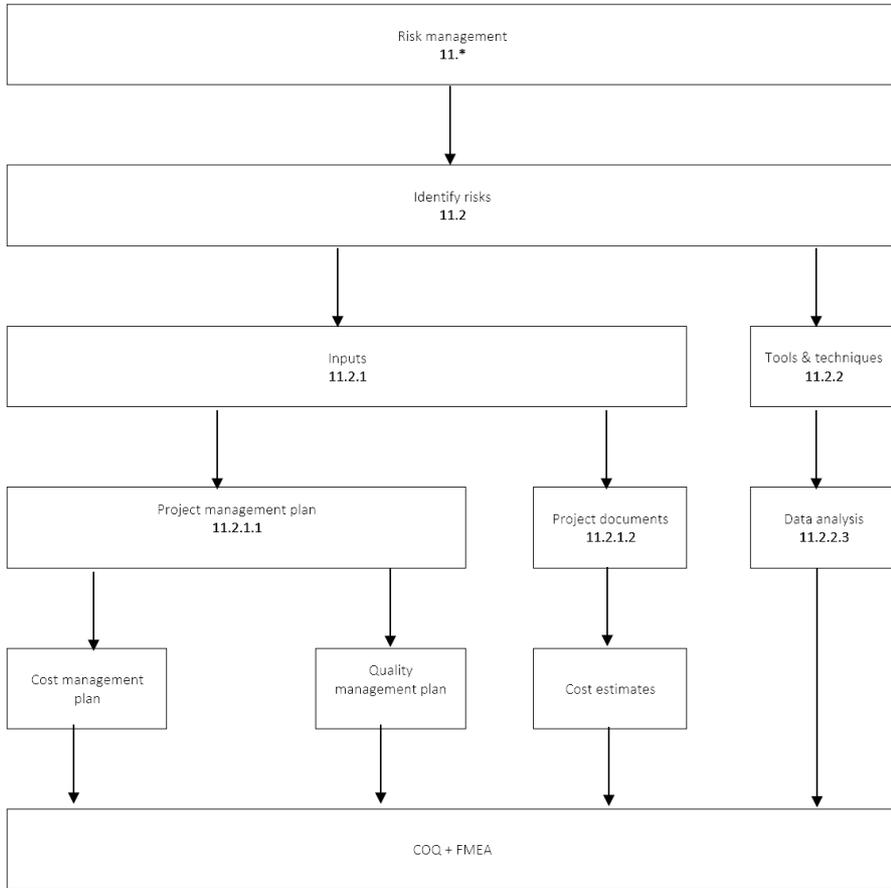
Table 9. Proposal of implementation/place of the category of the costs of quality identified using FMEA in the area of planning risk management



* Explanations: bold denotes the numbers of chapters of the PMBoK® methodology (PMI, 2017) in which implementation of the costs of quality is proposed.

Source: own elaboration.

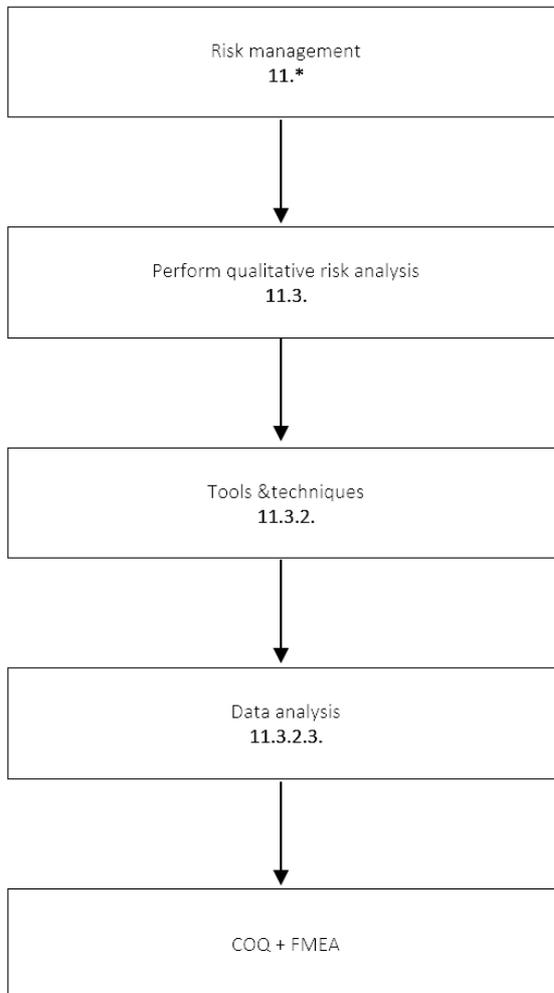
Table 10. Proposal of implementation/place of the category of the costs of quality identified using FMEA in the area of identifying risks in the project



* Explanations: bold denotes the numbers of chapters of the PMBoK® methodology (PMI, 2017) in which implementation of the costs of quality is proposed.

Source: own elaboration.

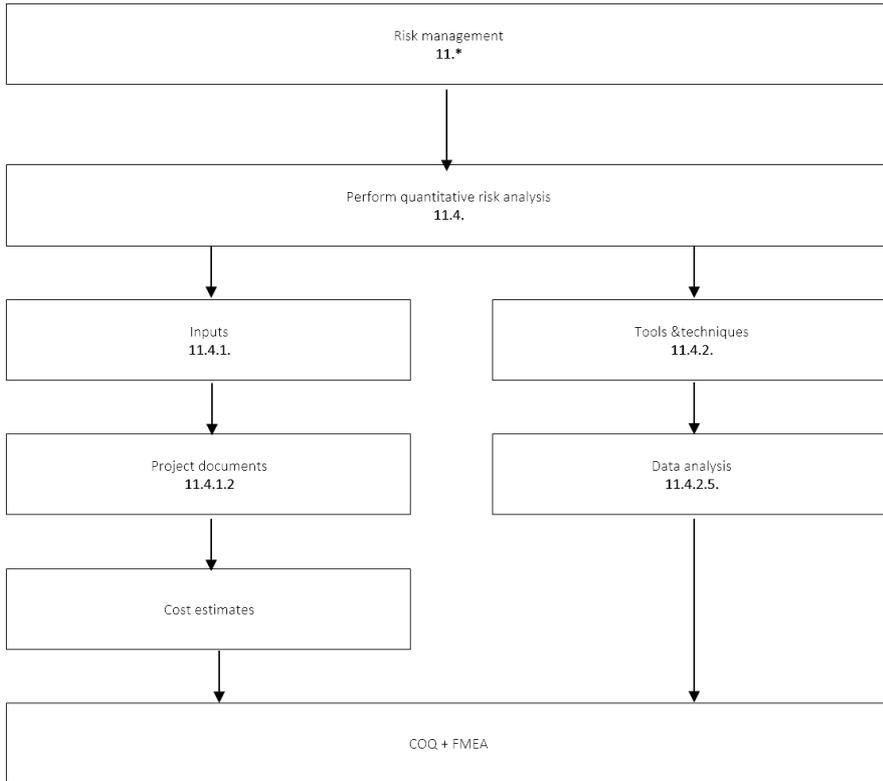
Table 11. Proposal of implementation/place of the category of the costs of quality identified using FMEA in the area of carrying out the qualitative risk analysis



* Explanations: bold denotes the numbers of chapters of the PMBoK® methodology (PMI, 2017) in which implementation of the costs of quality is proposed.

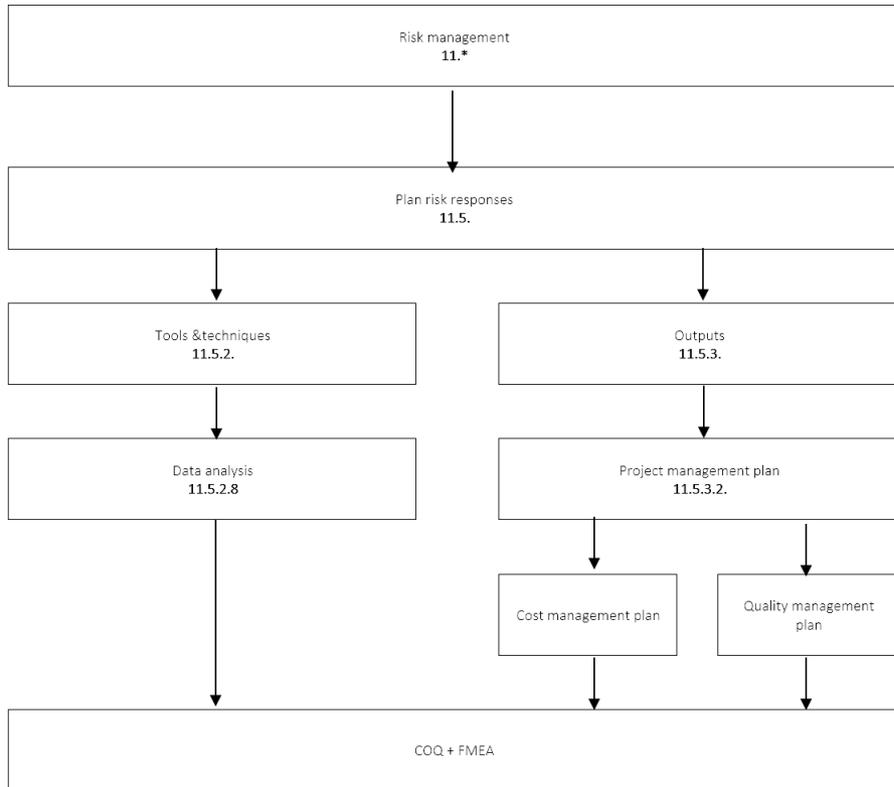
Source: own elaboration.

Table 12. Proposal of implementation/place of the category of the costs of quality identified using FMEA in the area of carrying out the quantitative risk analysis* Explanations: bold denotes the numbers of chapters of the PMBoK® methodology (PMI, 2017)in which implementation of the costs of quality is proposed.



Source: own elaboration.

Table 13. Proposal of implementation/place of the category of the costs of quality identified using FMEA in the area of planning reaction to risk* Explanations: bold denotes the numbers of chapters of the PMBoK® methodology (PMI, 2017)in which implementation of the costs of quality is proposed.



Source: own elaboration.

Table 14. Proposal of implementation/place of the category of the costs of quality identified using FMEA in the area of risk monitoring and control* Explanations: bold denotes the numbers of chapters of the PMBoK® methodology (PMI, 2017) in which implementation of the costs of quality is proposed.



Source: own elaboration.

Final remarks

The use of the costs of quality supports decisions undertaken by the project manager and allows him/her to optimize the costs of quality (incurring them in the specific financial dimension) with regard to project risk (understood not only in losses/threats but also assets/opportunities). It is indispensable to consider that:

- the costs of compatibility, similarly to the costs of incompatibility (excluding specific exceptions), lead to decreasing the project risk;
- the costs of exceeding the requirements can reduce the risk (through strengthening of assets and opportunities) or increase the risk (when such strengthening implicates excessive costs);
- the costs of lost advantages (through failure to notice/use the assets and chances) can increase risk (e.g., when other organizations perform projects that identify the stakeholders' needs more accurately).

The above conclusions refer to the extended (according to that the proposed in PMI) spectrum of the costs of quality and non-unilateral (i.e., contradicting the so-called negative conception according to which risk means only loss/threat) treatment of project risk.

The combination of project risk management and the costs of quality allows closer cooperation of the members of the team project with the project manager responsible for the final cost effectiveness. The exemplification presented that failure mode and effects analysis (FMEA), rather than issue log, root cause analysis, checklists, assumption and constraint analysis, probability and impact matrix, stakeholder risk appetite, and risk responding, is worth using.

In the course of further research, it is worth collecting the opinions of practitioners who will use, or perhaps even further improve, the preceding proposed method. It is also worth mentioning that the proposed method has already been verified in the 5 following projects supporting development (going from the phase test and orientation, through the phase of positioning

and conflict, trust, cooperation to the phase of separation and farewell) of multi-generational teams (Lipka & Giszterowicz, 2019):

- gamification project;
- training project;
- experimental project that diagnoses trust;
- workspace project;
- project determining the dynamics of the value of team.

It is also worth examining the possibility of using other methods by inclusion of risk management and the costs of quality, for example, the X-shaped matrix diagrams. They include the relationships between the following: mistakes that occurred and mistakes that were detected, mistakes that occurred and the ongoing mistakes, and the ongoing mistakes and the undetected mistakes.

Moreover, it is worth considering whether to include in the category of the costs of quality: the costs of lost advantages and the costs of exceeding the requirements to allow more influence on the project effectiveness. In this case, one should redefine the explanation of the optimum costs of quality presented in the beginning according to PMI (2017). According to the modified definition, it would be the cost that balances the investments in prophylaxis and the assessment not only with the expenses caused by the occurrence of mistakes but also with over-quality or lost advantages. This type of extension of the costs of quality in project management would influence the project risk (because neglect reflected in the costs of lost advantages also means risk) as well as project effectiveness (savings in the case of project activities that do not contribute significant value for the stakeholders, that is, in the case of the costs of over-quality/exceeding the requirements).

From the perspective of effectiveness, one should also try to use the following indices that allow, on an ongoing basis, following the costs of quality and their impacts on project effectiveness:

- share (in %) of the costs of prophylaxis in the total costs of compatibility;
- share (in %) of the costs of assessment in the total costs of compatibility;

- share (in%) of the costs of compatibility (both prophylaxis and assessment) in the total costs of quality;
- share (in %) of the costs of internal mistakes in the total costs of incompatibility;
- share (in %) of the costs of external mistakes in the total costs of incompatibility;
- share (in %) of the costs of exceeding the requirements in the total costs of incompatibility;
- share (in %) of the costs of incompatibility (both the internal mistakes and the external mistakes and the costs of exceeding the requirements) in the total costs of quality;
- share (in %) of the costs of lost advantages in the total costs of quality.

A higher share of the costs of incompatibility or the costs of lost advantages in the total costs of quality compared to the share of the costs of compatibility in the total costs of quality can be interpreted as the threat of low effectiveness.

The most important measure of the profitability (effectiveness) of the combination of the project risk management and the costs of quality is the difference between the numerically determined level of this risk before and after incurring this type of cost.



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Leading Intercultural Virtual Teams During the COVID-19 Pandemic – Research Results

ABSTRACT

Objective: The coronavirus (COVID-19) outbreak has been officially classified as a pandemic by the World Health Organization (WHO), meaning the infection is progressing faster and faster in many countries simultaneously. The United States of America has announced a travel ban on 28 European countries, many countries have closed universities, schools and kindergartens, and large gatherings of people have been forbidden. Many companies including Google, Apple and Microsoft encourage or mandate employees to adopt a work-from-home policy. For companies in the modern technology industry, the infrastructure and policy necessary for remote working are undoubtedly already implemented. However, for many smaller companies and organizations

the situation was very different. Remote working and virtual team management did not occur or were limited to only a few people. The aim of the article is to present the problems of leading virtual intercultural teams, with particular emphasis on the situation of the COVID-19 pandemic.

Methodology: Contemporary texts in the domain of cross-cultural leadership have been reviewed. Relevant existing research has been reviewed and primary research conducted. The latter consisted of 24 IDIs (Individual In-depth Interviews) with employees from various Polish organizations.

Findings: The COVID-19 pandemic has forced thousands of enterprises to let their employees work remotely, but many of these companies were not as technologically prepared for the situation as they thought. We are faced with increasing international cooperation and coordination. The outbreak of COVID-19 has accelerated the need for clear standards in remote and virtual teamwork. The article analyzed the positive and negative aspects of the impact of COVID-19 on organizations and ways of virtual leadership.

Value Added: This article answers the questions about the main problems faced by managers who had to lead teams in a virtual way.

Recommendations: The author is aware of the fact that this is only an exploratory study. It is recommended that in order to gain a fuller picture of the issues underlying the findings, quantitative research with large number of respondents should be undertaken.

Key words: leadership, COVID-19, teams, pandemic

JEL codes: M1, M16

Introduction

The success of the 21st century organization depends on its ability to adapt to the constant changes taking place in the environment, especially in the labor market, where it is represented by multinational, and therefore multicultural, labor resources. National, international, and transnational enterprises face new challenges and are forced to use the cultural diversity of their members for the purposes of the organization (Chmielecki, 2013).

Migration of employees and the globalization of companies mean that the number of people working in culturally diverse teams is increasing, and

more and more managers are managing people from different parts of the world, with different views and a different understanding of the concepts of cooperation and duty. Managing staff in monocultural teams is a difficult skill that faces many obstacles and challenges (Sułkowski, 2020). Undoubtedly, however, a higher level of difficulty and, at the same time, a higher level of human potential are represented by managers managing multicultural teams.

Culture and cross-cultural communication

Contemporary conditions for the functioning of companies in the market economy, combined with the development of information and communication tools and technologies, the emergence of business internationalization, delegations and transfers of employees, national and international migrations, as well as demographic transformations of the workforce contribute to the increase in the cultural diversity of human resources in the organization (Winkler, 2008, p. 17).

Today's workforce is multicultural, namely it is a mix of people from different cultures, ethnic groups and lifestyles, and in order for companies to function better in this reality, they must understand what multiculturalism is and how it affects the activities of the organization. Therefore, one should start by explaining the concept of culture that has as many definitions as there are participants (Chmielecki, 2009).

Already in 1962 J. G. Herder wrote that there is nothing more imprecise than the word culture (Jawor, 2009, p. 13). This German philosopher characterizes culture as a way of adapting to the environment, through generational transmission, and it is this tradition that significantly influences the formation of a man. On the other hand, the English scholar Eduard Burnett Taylor uses the concept of culture interchangeably with the term civilization and says that "it is a complex whole that includes knowledge, beliefs, art, morality, laws, customs and other abilities and habits acquired by people as members of society" (Tylor, 1871).

Culture is a complex mix of assumptions, behaviors, stories, myths, metaphors, and other concepts that are the ingredients of belonging to a given society (Chmielecki, 2013).

Intercultural business communication is in comparison with intercultural communication or business communication a relatively young field of study (Bargiela-Chiappini & Nickerson, 2003). It is also quite often neglected as a dimension of business (Brislin, 1994). Intercultural business communication has grown into a complex discipline.

Because of constantly increasing intercultural contacts and global interdependence, leaders and managers are simply forced to "rethink" intercultural communication in order to acquire effective intercultural communication and leadership competence which are becoming more relevant in the increasingly multicultural organisations and communities that people live and work in today (Arasaratnam & Doerfel, 2005 ; Mączyński, Sułkowski, & Przytuła, 2019).

Globalization of leadership

Globalization reduces and removes physical, technological, political and social barriers between countries, creating an integrated global market. The word globalization is often replaced with terms such as internationalization, social integration or transnationalization of the economy. However, these terms have slightly different meanings. Internationalization of the economy in the traditional sense of these words means the development of international relations with relatively independent economies and national enterprises. Thus, it is a quantitative process relating to the increase in foreign trade or capital flows. Economic integration, on the other hand, is an element of globalization. During the process of globalization, markets, economies and business entities are integrated. The transnationalization of the economy is the degree of "ties between the economy and the world economy mainly through the operation of transnational corporations" (Liberska, 2002, p. 19).

Contemporary globalization differs significantly from earlier forms of internationalization of economic life. It is characterized by an increasing mobility of capital and goods, it is accompanied by technical progress on an unprecedented scale, transaction costs of economic cooperation with foreign countries fall sharply, the importance of geographical distances and time zone differences decrease. Companies operating in the conditions of globalization of the world economy should effectively use all existing opportunities created by the globalization processes. Enterprises can look for their competitive advantage by introducing a strategy of internationalization of their activities. Entering foreign markets can significantly improve the company's competitive position (Chmielecki, 2012).

Correct entry into foreign markets requires knowledge of many aspects of international business. One of them is cultural differences in negotiations.

The migratory movement in the world between 1960 and 2005 increased from 75 million to almost 191 million migrants, in Europe the number of migrants amounted to 64.116 million people, which is 8.8% of the entire population of the continent (United Nations, 2006). In view of the above, the ability to cooperate and operate in conditions of multinationality, i.e. organizational multiculturalism, is so important because this ability to co-operate, apart from the art of generating knowledge and innovation, is the fundamental prerequisite for success.

Multicultural organizations

In connection with the issue discussed above, the definition of a multicultural organization is worth considering here. In the literature on the subject, it is defined as an organization within which there is a noticeable diversification of human resources in the intra- and intercultural scope.

On the other hand, the most characteristic features of such an organization are pluralism, acculturation, and integration. In such an economic unit, values, customs, assumptions, and dogmas of different cultures coexist

and interact with each other. Here, too, there is a particular variation of the course of socialization, consisting in the individual accepting cultural content different from those acquired earlier.

In a multicultural organization, a specific organizational dialogue is noticeable, according to which the representations of different cultures democratically determine decisions on an equal footing, therefore there is no overriding cultural orientation – on the contrary, the right proportion of minority representatives at the company levels is sought and carefully directed to eliminate the phenomena of social discrimination against cultural minorities. Multicultural organizations include international governmental and non-governmental organizations, multinational enterprises and transnational corporations (Winkler, 2008, p. 27).

International Government Organizations are relatively permanent unions of at least three sovereign states, formed as a result of an international agreement of these states. Most often they are non-profit organizations, for example the Council of Europe or the European Union.

On the other hand, **International Non-Government Organizations** are associations established under an act which is a private agreement, whose members are natural persons from at least three countries, and their activity is aimed at obtaining private funds for the implementation of public purposes. As a rule, they are also non-profit organizations, represented by the International Helsinki Federation for Human Rights.

Multinational Enterprises are organizations that operate and make direct investments in more than one country, and their activity is most often based on a large number of relatively small companies in individual countries. They are characterized by a gradual decentralization in decision-making, and the representatives of this type of organizations are Daewoo Corporation, LG Electronics Incorporated.

Transnational Organizations are usually established outside the country from which the capital comes, and the people employed are employees from the investor's country as well as the local population. These

enterprises do not show a political character and do not identify with any country, they only engage in profit-oriented activities in an area that exceeds the borders of one country.

The above list of multicultural organizations clarifies the understanding of this concept; however, it is not complete, due to the widespread cooperation of representatives of different nations within one organization. An excellent example of internationalization within regional blocs is the European Union, which provides citizens of the Member States with the right to freely emigrate to other EU countries. As a result, they can take up work under the same conditions as nationals of a foreign country, and also use the same benefits that are used by employed workers of a given country. As a result, an increasing number of small and medium-sized enterprises, public or private, representing various industries (e.g. construction, education, hotels and restaurants, social welfare, production and service activities, transport, or retail and wholesale) are representatives of multicultural organizations (Winkler, 2008, pp. 27–30).

Intercultural virtual teams

The interest rising around global virtual teams is quite similar to the one around teamwork in the 1980s. One of the lessons scientists learned at that time was that organizations could not simply bring these teams in and immediately expect them to work in an efficient way. It usually takes both effort and time to see the benefits. Both creating and managing intercultural virtual teams requires a similar investment. Nevertheless, if this is done in a correct manner, building global virtual teams can produce greater benefits than traditional – monocultural teams.

Benefits of going global

- Access to talented people around the globe: Global virtual teams open up numerous opportunities around the globe and enable certain people to work with certain cultures.

- Diverse perspectives: Research clearly shows that when teams break through conflict caused by diversity, the benefits of new insights, thoughts and perspectives often lead to innovative and unconventional solutions.
- Local advantage: Due to the global composition of these teams, local team members become representatives and experts in their international market.

Benefits of being virtual

- Reduced costs: With the application of smartwork and global virtual teams, international travel, dining and accommodation fees are minimized or non-existent while maintaining the benefits of having team members from different locations and with different perspectives.
- Quicker and smarter responses: Communicating via email or other text-based technologies gives team members enough time to respond in a more thoughtful way.
- Greater responsiveness and flexibility: Globally linked technology solutions give rapid access to the required information.

One of the ways used by organizations to overcome these problems and build high-performance global virtual teams is by developing the intercultural competences of the team members.

In connection with the above list, a conclusion arises that a positive attitude to diversity, integrating it with the system and culture of the organization, as well as its effective management can provide the company with many benefits. The positive impact of multiculturalism on the effectiveness of employees is noticed by many researchers of this topic and explained with such arguments as:

- Finance – synergy in conditions of a high level of differentiation minimizes the degree of fluctuation and absenteeism, and also guarantees a high level of work efficiency.
- Personnel policy – cultural diversity of the organization ensures the attractiveness of jobs for experts and specialists from national minorities.
- Marketing – cultural diversity of employees makes it easier to understand different market segments, and thus allows for better matching of advertising campaigns to relevant markets.

- Employee creativity – cultural diversity is a determinant of a high level of innovation in teamwork when resolving disputable issues, and additionally stimulates creativity.
- Quality of the decisions made – cultural diversity in the organization influences the diversification of the perspectives of perceiving the issues under consideration.
- Flexibility of the management system – cultural diversity of the working staff enforces an increase in the flexibility of management and operation of an economic entity (Winkler, 2008, p. 31).

Problems in leading cross-cultural teams during the COVID-19 pandemic – research results

Contemporary texts in the domain of cross-cultural leadership have been reviewed. Relevant existing research has been reviewed and primary research conducted (table 1). The latter consisted of 24 IDIs (Individual In-depth Interviews) with employees from various Polish organizations.

Table 1. Research methods used in the study

Research metod	Type of research	Research sample
Desk research	Qualitative	–
IDI	Qualitative	24

Source: own study.

Most respondents were between 25–35 years of age (12) and 35–45 (9). The vast majority of respondents came from SMEs (21). The author is aware of the fact that the study has only a fragmentary, exploratory character. The majority of respondents come from the manufacturing sector (7), as well as IT (6), finance (4) and consulting (3). Because of the limitations (length of the paper) only a few respondents' answers will be cited to represent each problem.

Problems with building trust

To communicate more effectively across different cultures, leaders and managers need to develop intercultural sensitivity, good relationships, and trust. According to Ackley and Barker (2001) there are four criteria to assess intercultural sensitivity:

- 1) Positive feelings about interacting with people from other cultures;
- 2) Positive feelings of people from other cultures towards an individual;
- 3) Successful completion of work;
- 4) Freedom from stress related to contact with culture.

Mutual trust plays a more and more important role in successful operations of international teams, but managers and leaders freely acknowledge that trust is not easy to achieve – especially in virtual teams, where there is uncertainty and incomplete knowledge of all group members. Trust is a key condition for successful and effective teamwork.

[R14]

“Despite the benefits of technology for virtual team communication, teammates benefit greatly from face-to-face contact, especially at the start of a project. This helps in establishing working relationships and building trust.”

Grosse (2001) states that managers in virtual teams see travel as necessary to develop relationships. Establishing a personal relationship is an important reason for a business trip, but not necessarily the only one.

Problems with ethnocentrism

People with an ethnocentric attitude consider their own culture to be the best, an exemplary one to follow, and at the same time evaluate other cultures through the prism of their own, which results in treating these differences as anomalies and deviations from the norm. When the criteria of one’s own culture become the determinant of assessing the way of life of other communities, it can lead to amazement, aversion, condemnation, and



even hostility and the willingness to impose one's own culture on others, because "what's ours is the best".

Ethnocentrism has several varieties: fundamentalism, i.e. the natural and common, psychocultural identification of an individual with their own group and its values and the inability to completely detach themselves from those values; moderate ethnocentrism characterized mainly by the affirmation of one's own values and a relatively low level of depreciation of foreign patterns; aggressive ethnocentrism, characterized by the absolute hegemony of one's own values and the lack of tolerance for other norms.

Ethnocentrism strengthens the identification of an individual with the group, but on the other hand, such a vision of reality divided into one's own kind and strangers is at the fore of the group's resistance to external innovative activities, and also hinders interethnic communication, which in turn fosters conflicts.
[R10]

"A phenomenon worth emphasizing, resulting from the occurrence of multiculturalism in the organization, is the belief in the special value of one's own culture, overwhelming others. Attitudes towards diversity may be different, even very emotional, but the encounter with otherness and strangeness usually evokes ethnocentric attitudes, affirming the culture of one's own group, while diminishing other cultures."
[R3]

"It is very important to understand the nature and essence of diversity and multiculturalism, it will allow for understanding different behaviors and differences, which in turn will facilitate their acceptance and respect."
[R14]

"Despite the equal opportunities policy applied in most companies, you should not treat everyone equally, you should be able to feel what it is like to be somebody else's shoes, in other words, show some empathy."
[R2]

"Fears and the lack of willingness to talk about the issues of diversity and multiculturalism are the reason why minor problems turn into larger conflicts."

[R4]

“Getting to know your own feelings better allows the group members to intensify effective cooperation. Effective cooperation is also fostered by tolerance, i.e. an open, objective and respectful approach to the attitudes, views and characteristics of another person or community. Complex processes of cooperation between people cannot do without communication, which is an essential element for the emergence, development and maintenance of human interaction, organization and culture.”

Problems with the approach to planning, setting goals and time management

Approaches to project management tasks such as planning, goal setting, and task assignment vary by culture (Milosevic, 1999).

Varner (2001) discusses other important cultural influences on team dynamics, such as giving and receiving criticism and feedback, willingness to participate and propose ideas, and supervisor contradiction.

Getting to know each of the strengths and origins of each team member early in the project has proven to be a valuable strategy. Some teams have used this knowledge by playing on each other’s strengths and minimizing weaknesses. Recognizing that teammates had different levels of knowledge, experience, skills and abilities, these teams spread the workload accordingly.

[R21]

“For example, a team member from a monochrome culture with excellent organizational skills can guide the allocation of tasks and monitor the implementation of each part of a project. A team member with good time management skills builds a timeframe and keeps others on track to complete the project.

The interpersonal skills of another person from a pro-partnership culture help in resolving conflicts and building group consensus when the team disagrees. One of the team members may be weak in time management and



strong in interpersonal skills. Another person may be lacking in technical knowledge and may rely on their internet-literate teammates.”

Positive changes

Many have found that working with people from different cultures has enriched the experience for everyone.

Diversity brings a wider range of expertise, resources, and perspectives to projects. They commented on how each person added a different perspective and helped their teammates see things from a different angle.

Diversity stimulated new ideas and increased creativity. Working in teams changed their view of how people from certain cultures behave and erased stereotypes.

Managers have identified clear benefits of working in multicultural teams. Most of them described the experience as extremely positive. They found it fun and interesting to learn about other people’s cultures while doing work. As a by-product of their work, they learned how to communicate effectively with people all over the world.

[R7]

“Employees exchanged information beyond the scope of the project and broadened their knowledge about different people, cultures and places. In this way, they made new friendships.”

The joy of working as a team was one of the three key factors that Snow, Snell, Davison and Hambrick (1996) identified as critical to the success of an international team. The other two key success factors are commitment to the team’s mission and standards as well as reliability in carrying out the assigned tasks.

[R9]

“I have found that intercultural competences help to increase team effectiveness when people from different cultures actively explore different people’s point of view. Something like, ‘I’d like to hear more about your thoughts.’ This gives them an invitation to share.”

[R4]

“It seems necessary at this point to emphasize that the cultural differences that take place between members of the community are not the main source of problems. On the contrary, it is rather the way in which problems arising from multiculturalism are treated, that is, how members relate to them both individually and collectively.”

The very dissimilarity can positively affect the processes of knowledge development at the individual, collective and organizational level. However, it should be born in mind that the mental patterns, ways of perceiving the environment and value systems represented by individuals of other cultures can “shed new light” on well-known issues and “truths”, both stimulating individual people to revise their beliefs, as well as driving them to new searches.

[R8]

“An interesting example from my team is when someone in Asia offered feedback and took risks by speaking to his manager more than he would in a different setting. They learned a new behavior and tried it out in a global virtual team. It’s very rare to see it, but when you do, it’s magical.”

[R7]

“Being very aware of differences existing in both values and beliefs, communication styles, approaches to conflict, decision making, problem-solving and negotiation may help teams overcome cultural differences. Additionally, team members can break down language barriers by showing respect for other cultures and languages.”

[R18]

“Cultural differences are something invisible and intangible, they influence the way we understand the world, hence they can be frustrating, difficult to unravel and often unpredictable. However, if we include practices in international business in certain logical values and models, we can reduce the feeling of the fear of the unknown, and what is more, we can derive various benefits from this dissimilarity.”



[R1]

“An effective way of achieving successes, not failures, by a culturally diverse group is learning from other members of the organization, learning a variety of solutions and accompanying techniques, both in selecting employees, motivating or practical technical solutions.

It should be emphasized here that increasing the awareness of diversity improves interpersonal relations and builds a good reputation of the company in its management, and by creating a positive image, attracts talented candidates for work and improves the quality of the company’s human capital.”

[R9]

“International participants were more likely to share their comments using virtual meeting software than in face-to-face context.”

[R22]

“Treating diversity as a positive and valuable element of the organization increases the level of loyalty and trust among employees, which in turn has a positive impact on the atmosphere and organizational culture, and also fosters intense commitment.”

[R6]

“Technology and communication that it enables gives companies a competitive advantage in an international environment. Technology helps people in remote locations connect and build relationships without having to travel. Employees who travel can stay in close contact with their home office. Virtual teams enable companies to achieve goals faster and more efficiently.”

Summary

Differences resulting from the various national origins of company employees contribute to the different perceptions and understanding of selected collective activities and management decisions. Differences also create the need to take appropriate actions to transform the solutions used within the organization of work. The phenomenon of diversity very often is the cause

of negative human attitudes that are hostile to people distinguished solely on the basis of group membership.

Discrimination, prejudices and stereotypes are examples of harmful and unjustifiable reactions against a given group. The above-mentioned components of human attitudes often lead to difficulties in understanding the potential benefits of diversity. Therefore, it is necessary to analyze and understand the reasons for the occurrence of these phenomena in order to minimize their occurrence in the development of effective multicultural teams.

By working with other people, we learn from each other, and thus the more diverse our partners are, the more we can learn. Diversity in an organization is nowadays perceived as an ambivalent feature, which means that it can contribute to achieving success, but it can also turn out to be an element leading to failure. Multiculturalism can be considered a determinant of the success of an organization. When this resource is effectively managed, we can observe greater creativity of employee teams, avoiding the group-thinking syndrome, and above all advantages in a competitive game. Otherwise, diversity may become the cause of conflict and incoherence, which results in transferring stereotypes to the organization's disadvantage, poor communication combined with incorrect interpretation of various situations and events.

In the globalized world, the ability to navigate markets with different, national, culture specificity and the ability to manage teams of people from different cultures can determine victory over one's competitors.

The awareness and ability to deal with diversity, as well as being able to benefit from it, ensures the development of the organization, and becomes an asset in achieving a competitive advantage. Cultural competences enable mutual understanding and effective cooperation in international work teams. Cultural diversity in the workplace also fosters the challenges of knowledge and innovation.

Promoting equal opportunities for all, irrespective of race, religion, sex, and age, creates an atmosphere of mutual understanding of tolerance and acceptance of different values. The problems of cultural diversity significantly



affect the nature of personnel policy, stimulating the creation and dissemination of knowledge, as well as promoting the creativity of employee teams. Nevertheless, in order for this cultural difference to have a positive effect in the functioning of the organization, cultural knowledge is necessary, as it will allow to develop an appropriate intercultural dialogue, change social awareness and avoid social conflicts.

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Lean Management Implementation in Small and Medium Sized Companies – A Success Case Study in a Manufacturing Process

ABSTRACT

Objective: The aim of this paper is to understand a production system of a forging and presses structure of a centenary factory in terms of a cultural change on the management approach.

Methodology: The study was focused on many aspects such as the pieces production lead time, a time study of the setups, the Overall Equipment Effectiveness determination for the Computer Numeric Control machinery and an analysis of the production cells operational flow.

Findings: For the aspects that were analysed during the study, the problems are identified, and the root causes determined. At the end of the assessment stage Lean tools and concepts for fixing the problems were proposed, like new rules for production planning, setups procedures, 5S toll usage and a Lean implementation plan that is adapted to the company.

Value Added: The high industrial competitiveness has dictated the development for this sector that – allied with the inconstant and unstable economic environment – makes the companies very vulnerable and highly dependent of the global market. This is a concern of special relevance for the Small and Medium Size companies that are increasingly adopting Lean solutions to continuously improve their operational value chain and the management approach, for a more systemic way of thinking.

Recommendations: For some of the solutions an impact study with their implementation was made. An analysis of the success factors proposed in the literature that were verified during the assessment stage of the case study was performed as well.

Key words: Lean Management, SME, OEE, Lean Implementation Plan, Production Planning

JEL codes: L11, L23, L25

Introduction

Small and medium sized companies – are increasing their presence in the manufacturing activity, his – allied with the unstable economic environment – makes this kind of companies highly dependent of competitiveness factors, as the constant improvement of the production systems, to produce more with less resources and with better quality levels is a concern for most of the management teams. Continuous improvement makes the companies better prepared to face the changes of the industry, enabling them to face daily problems and getting a long-term vision (Madaleno, 2018).

Lean philosophy is well recognized by top managers as strategy, in order to archive their goals, both in management and production areas, Lean implementation needs a total understanding of the system, identifying the

added value chain and the waste sources, minimizing or eliminating them. Although, due to lean birth relate to large enterprises, its application in Small and Medium Sized Companies is often questioned by some researchers (Almanei, Salonitis, & Xu, 2017).

To understand the limitations of a lean implementation within SMEs, a literature review was made, extensive research approached the subject, and a convergent analysis of the findings was made.

This case study defines the main objective as the assessment of a production system of a forging and presses structures production company a Lean assessment was performed for the manufacturing sectors, such as product lead time, setup procedures, OEE (Overall Equipment Effectiveness) factors identification and calculation.

An analysis for workplaces was also done, at the end of the diagnosis stage several lean solutions were proposed and for some of them an impact study was made (Madaleno, 2018).

The implementation of the lean management philosophy in all types of companies, or other organizations, is also related to aspects of an intercultural nature, which is a factor influencing the success of possible implementation processes (Alkhoraif & MacLaughlin, 2018).

In the specific case, as a starting point, a new management aspect was formalized in the company, moving from a family philosophy to a professional management team. It strongly transformed the basic cultural notions, as Portugal is frequently associated with low levels of productivity and competitiveness. Those are often related to its corporate structure and form of management and leadership. It was deemed interesting to situate the study in terms of analysis of the organizations' leadership on an Internal perspective and its influence in the direction and future development of companies, taking in consideration the high-level changes promoted by the LEAN Management Philosophy implementation, considering a Portuguese Small and Medium sized company with a family management style (Romana, 2020).

Literature review

The case study focusses on SMEs, it is important to understand this kind of companies, by definition the concept varies from place to place. European Commission issued a recommendation for the member states to define SME as a company that has between 10 and 250 workers and a business volume up to 50 million euro. Portuguese government followed the recommendation, but the German for instance, states that SME has up to 499 workers and a business volume up to 50 million euro. Outside Europe, the Chinese government states that SME may have up to 999 workers (Madaleno, 2018; Tetteh & Burn, 2001).

The significance of contemporary discourse on leadership, practical aspects of managerial work, and ambiguity as a central dimension of organization and leadership (particularly in knowledge-intensive settings) are highlighted. We examine the presumed leadership in a company with respect to the three 'moral' and 'aesthetic' positions or aspects of leadership: the good, the bad and the ugly leadership. We define how managers incoherently move between different leadership positions (Quinn & Quinn, 2015).

The study undermines some of the dominant notions of leadership, for example, the leader as a consistent essence, a centred subject with a particular orientation to work. We suggest a less comfortable view of managers aspiring to adopt, but partly failing to secure leadership identities and a coherent view of their work.

Value commitments appear as disintegrated and contradictory, which indicates a need to radically rethink dominant ideas about leadership on the normal and fundamental state (Quinn & Quinn, 2015), as LEAN Management can help on this change by using better operational tools, continuous improvement plans and following better key performance indicators (Romana, 2020).

Lean in Small and Medium Sized Enterprises

Lean is a well-known key factor in repetitive production companies for improving their operations. However, because lean implementation relates to large companies, so many researchers question its applicability in low size companies or processes, stating that it is dependent on the company's dimension and volume of activity (Pakdil & Leonard, 2014). The research processes about lean implementation in SMEs are increasing, mostly due to the increasing number of companies applying it to their production structure (Matt & Rauch, 2013).

Studies show that SMEs implement lean principles mostly at manufacturing level (Pettersen, 2009) and that this type of enterprises often choose to select techniques that carry less investment effort (Hu, Mason, Williams, & Found, 2015).

The modern competitive context is pressuring companies to achieve higher levels of productivity with the lowest resources' usage (Kokubu & Tachikawa, 2013). Thus, a few alternative methods have emerged to support management decisions in terms of operational and economic results.

At the same time, considering the product quality impact and production volumes (Kokubu & Tachikawa, 2013; Sygulla, Bierer, & Götze, 2011), some tools have been developed to support manufacturing companies to increase the effectiveness of their Value Chain and to support management decisions by presenting the effective added value activities.

Lean Management is recognised as a solution for waste elimination. Its main goal is the identification and elimination of several types of non-added value tasks allowing companies to achieve an efficient customer demand (Spear, 2019). The competitiveness of small and medium sized enterprises (SMEs) is vital for the European economy.

Also, manufacturing is most of the times the main focus of Small and Medium Enterprises, so by implementing lean philosophy is a possible way in order to develop better production practices and to create a better environment for continuous improvement (Majava & Ojanpera, 2017).

The methodology is applied to an industrial system in a Portuguese traditional company, in order to support our study in practical terms.

Success factors for Lean Implementation

It is very important to understand what drives this kind of companies to implement a management model based in the Lean principles to their operational processes, so an analysis of the success and failure factors of such implementation must be identified (Almanei, Salonitis, & Xu, 2017).

A study published by Hamid (2011) states that the success or failure factors must be categorized as one of the following:

External:

- Customer – relation with the customer and their feedback;
- Governmental – applied legislation, government changes.

Internal:

- Top management – support and resources availability;
- Training – for the workers to understand lean principles;
- Workers – involvement and motivation issues;
- Work culture;
- Communication – ability to spread information within the organization;
- Resources – financial and human;
- Development of continuous improvement thinking.

The decision for the application of lean principles in an area of the organization is directly related to the experience of success and failure. A study published by Almanei, Salonitis and Xu (2017), proposes that success or failure factors can be categorized in some of the categories shown above and adds others like organization awareness, commitment of top management, external consultants support, adoption of a strategic approach and realistic milestones (Samantoroy, 2017).

A study conducted by Antosz and Stadnicka (2017) groups the failure factors in a different manner. It states that the most common failure factor

is the excessive work experienced by operators, followed by the lack of commitment by workers, the resistance to change, lack of knowledge of lean principles, lack of motivation, shortness of investment and the top management's lack of involvement. Some researchers prefer to refer to this factor as facilitators or inhibitors for lean implementation, calling them CSF – Critical Success Factors (Hu, Mason, Williams, & Found, 2015). Despite the differences in nomenclature, these authors confirm that companies with better performance are those who can adopt a proactive thinking in problem solving (Hermawati & Mas, 2006).

Lean Implementation Strategies

The best way to implement lean principles in SMEs is doing it step by step according to authors, due to lack of resources (Matt & Rauch, 2013). A plan proposed by literature is called "Lean Staircase" (Almanei, Salonitis, & Xu, 2017). This plan is divided in two phases: an investment phase and an improvement phase.

In the investment phase the priority is given to a strategic implementation, regarding the definition of specific goals the company wants to archive. During this phase, it is expected of the company to spread lean thinking among its structure, not only at top management positions, but also at operations level. It is a phase where funding and support must be found from external sources, as the strategic and investment plans need to be reformed (Womack, Jones, & Ross, 1990). The investment phase corresponds to the time gap between lean principles adoption and obtaining results from the techniques implemented. The last steps from the performance investment phase are the diagnosis of the production system and the application of some of the basic lean tools, like 5S or VSM (Dennis, 2015).

The performance improvement phase relates to a more operational intervention, corresponding to the phase where results can be obtained. It starts by developing change support mechanisms such as performance

metrics. It is succeeded by the application of more complex lean tools, like TPM, Kanban or Kaizen. This phase ends with the adoption of other supporting initiatives, like IT systems and the integration of suppliers in the lean initiative. For continuous improvement the implementation plan suggests that the company has to continuously reset its goals and review them with time (Hu, Mason, Williams, & Found, 2015).

There are other implementation plans suggested in literature. The one defined by Sunder (2016) suggests that the implementation should start by defining milestones for the goals the company wants to archive and simultaneously do the Value Stream Map and diagnosis of the full production system. The author then suggests the implementation of lean tools, like cell production, SMED, Kanban. The process will be supported by a continuous improvement plan, which will allow the management to define better and more ambitious objectives.

Every plan analysed has the diagnosis stage in common, this diagnosis can be made in two ways: with a lean assessment tool (LAT) or by performing an in-place diagnosis on the shop floor, some aspects included in lean initial assessment are related with the part numbers lead time, with Overall Equipment Effectiveness factors and Value Stream Map calculation.

In some cases, the (LAT) – Lean Assessment tool has some limitations for its usage like the unavailability of accurate statistical data (Pakdil & Leonard, 2014).

Suitability of Lean techniques in SMEs

Due to some of the characteristics of SMEs, involving some resources limitations and lack of skills of some operators, some lean techniques are not suitable to be implemented in SMEs. Studies published refer that the Six Sigma, Failure Model Evaluation Analysis and Total Quality Management are not suitable and the most suitable are 5S, JIT, pull system, visual management, or Poka Yoke, so the most sophisticated lean techniques should be used in larger companies that may have a typology of more powerful resources allowing their use (Nagavarapu, 2013).

In SMEs it is understood that the use of the most elementary tools, such as 5S and visual management, would be of great use for the creation of more favourable conditions for the understanding of Single Minute Exchange Dies and later for the development of Overall Equipment Effectiveness implementation in order to perform a better follow up on the operational results, as a high-level Key Performance Indicator (Nagavarapu, 2013).

Case study and methodology

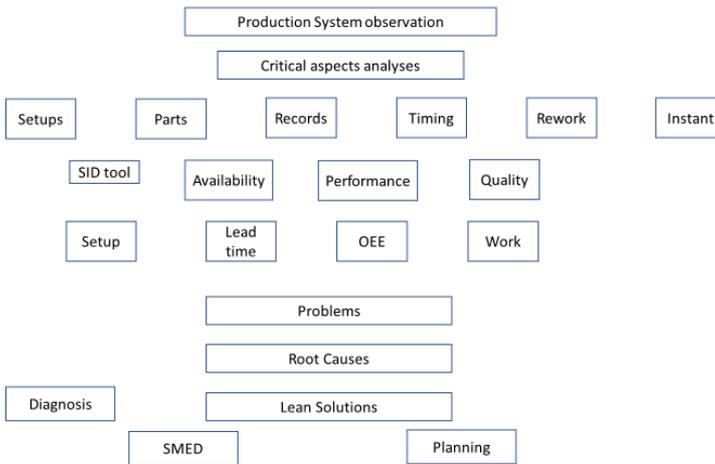
In order to study this aspect and describe it in this paper, a management position of several years was accomplished.

The company under study was founded in 1920 and since then has produced machined pieces for forging and presses elements. In order to perform the initial assessment/diagnosis a plan flow chart was designed that is represented in Figure 1.

The first step was to understand the production system, identify critical aspects and decide which analysis to perform for each aspect. Once that is done, the diagnosis contemplated timing of setups, machining parts were monitored, the existing records were analysed, some machining programs were monitored, and instant observations were conducted.

With gained information, an analysis of the setup procedures, lead time determination, OEE determination, and a workstations analysis was performed. By the end of the collecting period, the problems associated with every aspect analysed were identified and the root causes determined. That allowed to propose some lean solutions that had the objective of minimizing the impact of the problems identified during the diagnosis.

Figure 1. Assessment Plan Flow Chart



Source: own elaboration.

Initial Assessment/Diagnosis phase

Lead Time

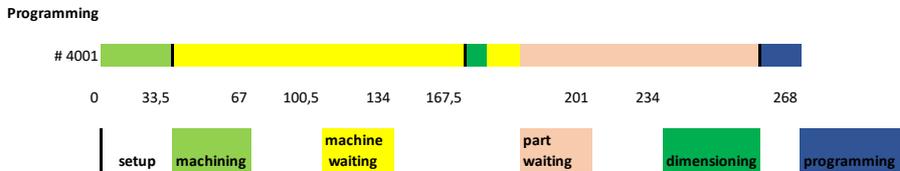
All parts produced by the company are made by order and each order is identified by the prefix “GL”, which means Galucho (company name). Two orders were monitored, each comprising three pieces. These two orders were requested in duplicate, so they had the exact same pieces, each containing a GL100, a GL200 and a GL300 as an internal code for the workplace.

The two pieces GL100 were machined at the same time and in the same equipment, with the lead time represented in figure 2. The detailed data for the lead time of these two pieces is in table 1. The production of the parts took 268 hours, and 51,9% of them were with the machine waiting due to lack of information from the customers regarding specific conditions that had to be drilled in the bottom of the pieces.

There were also 32,5% of waiting time for the dimensioning operations to control the pieces. In general, the production of these two pieces had an

added value contribution (AV) of about 15,1% and non-added value contribution of 84,9%.

Figure 2. Parts Lead Time



Source: own elaboration.

Table 1. Lead Time impact factors GL100

Lead Time	268 hours	
Programming	9 h	3,40%
Setup	1,4 h	0,50%
Machining	34,7 h	13,00%
Machine Waiting	139,0 h	51,90%
Part Waiting	87,2 h	32,50%
Dimensioning	5,7 h	2,10%
Total	268 hours	100%
Total AV	40,4 h	15,10%
Total NAV	227,6 h	84,90%

Source: data collected from company reports.

A similar analysis was performed for the GL200 and GL300 pieces and the detailed data can be found in table 2.

Table 2. Lead Time impact factors GL200 & GL300

Lead Time	GL200	GL300
	539 hours	
Programming	6,50%	1,00%
Setup	1,70%	1,70%
Machining	16,50%	17,00%
Machine Waiting	11,00%	23,00%
Part Waiting	70,40%	58,10%
Dimensioning	0,40%	0,20%
Total	100%	100%
Total AV	16,90%	17,20%
Total NAV	83,10%	82,80%

Source: data collected from company reports.

The lead time value related to these two parts – numbers archive 539 hours to finish all the tasks. The part waiting stands out of the remaining lead time contributors with an incidence of 70,4% and 58,1% for GL200 and GL300 pieces, respectively, so the operating time for these parts is very low, representing about 17% of total lead time for all pieces. The non-added value contributors represent about 83% of the lead time.

The lead time analysis concluded that the waiting time while the pieces were in production was very high. There was a huge difference between the time expected for the machine to conclude the work and the real one verified, and the ratio Added Value/Non-Added Value promote a really low rate result.

Using some Lean tools as the 5 Why's analysis some of the problems main causes were well raised: lack of production, non-Total Productive Maintenance planning and low level of people motivation in the team.

Setup process and time

The setup process analysis was performed by monitoring 9 procedures comparing the results for the Computer Numeric Control and Conventional equipment. The data for the Computer Numeric Control are represented in figure 3.

The setups analysis was been accomplished using the SID tool, which allows the comparison of different setup process and procedures. It categorizes all tasks done by the operator in categories like movement, transport, cleaning, tool, adjust, positioning, program, and unsuitable operation (Madaleno, 2018).

According to the analysed values it's very clear that there is an important variation in the several kinds of verified operation time, total time and splitted for the SID activities.

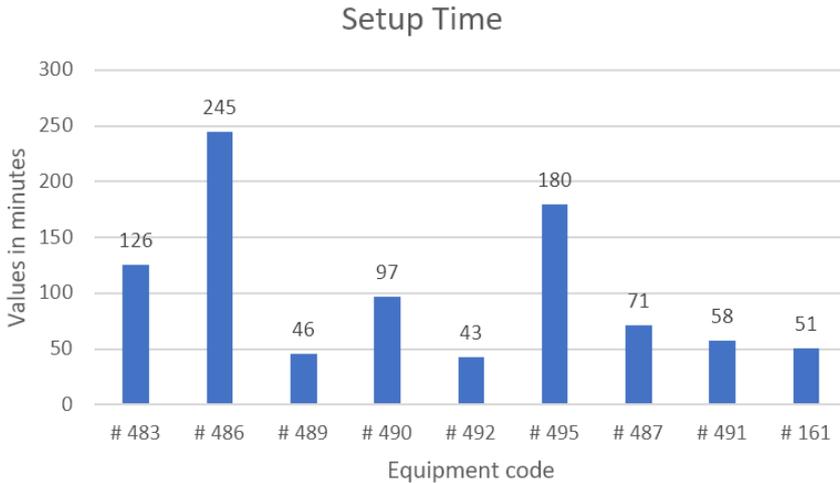
By example, taking in consideration setup 2 (equipment #486) it can be verified that it lasted for 245 minutes, as for setup 5 (equipment #492), it took only 43 minutes, this is an important difference considering that it's the same, process, procedure, machine and the very same type of piece operated for the proposed verification.

The variation of SID operations is also relevant, the variation of cleaning operations varies from 8% to 24%, movement operation varies from 8% to 46%, transport varies from 1% to 25%, positioning operation from 3% and 20%, adjust from 4% to 40%, tool from 0% to 23%, and program operation from 8% to 72%, considering Computer Numerical Control equipment, of course the same situations were verified in the conventional machinery.

The setups analysis allowed to determine the problems that were causing the high level of time waste in non-added value tasks that were performed by operators during the time that the machines are stopped, so to determine the higher timing for SID operations, the 5 Why's analytic toll was been used.

The main results of the a.m. analysis are related with, the lack of tools kits in quantity and variety to equip all the machines, the lack of organization of the space available around the machines, the inexistence of a standard setup procedure, the lack of organization of the storage of tooling.

Figure 3. Computer Numeric Control Machinery – Average Setup Results



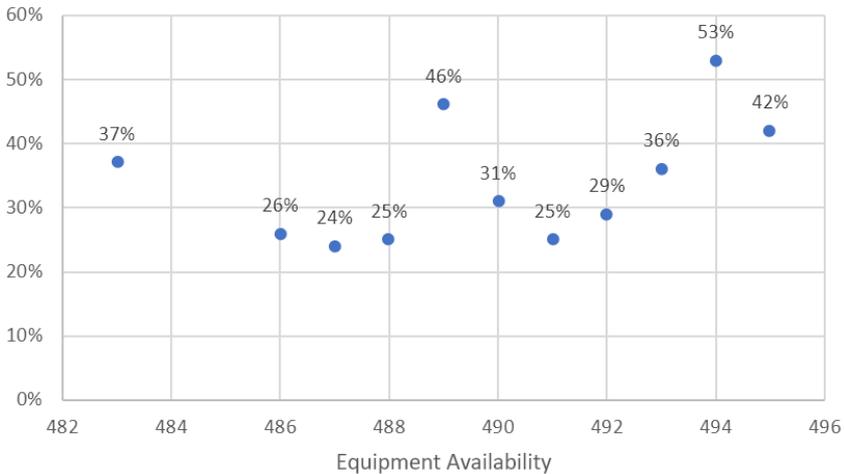
Source: data of the surveyed company.

Overall Equipment Effectiveness

The Computer Numeric Control equipment was the one analysed because of its relevance in the manufacturing process. The Overall Equipment Effectiveness (figure 5) is calculated taking in consideration three main factors: availability, performance, and quality.

For the total time available it was considered that the equipment was able to work 24 hours per day and every day of the week. This time constituted the time available which was referred to as SA (Shift Availability).

For the availability, the results showed that in average the machines were being used 37% of the time, or about one third of the time available. The availability of machines varied from 24% to 53%. Values above 33% are in line with the usage of machines after operators leave the factory, as they are only there for one third of the time available in the 8 hours shift. The results for availability of equipment are shown in figure 4.

Figure 4. Computer Numeric Control – Equipment Availability

Source: data of the surveyed company.

The classification of the available time is machine running, machine in setup, machine waiting, machine in maintenance, machine broken, and machine in idle. The importance of this components in the time available has huge variation depending on the analysed process.

It was verified that there were no maintenance incidence pattern and a high incidence of broken time in some machines like the CNC 1, CNC 2 and CNC 3. The low values of availability are caused mainly because of the equipment idle times.

The Computer Numeric Control performance varied from 45% to 90% and only two of them had values above 80% and about half lower than 65%. The average performance was about 67%. Once again, a 5 why's analysis was made to conclude the root causes of the problem of low performance values caused by the lowering of machining speeds by the operators, it was verified that the root causes were the lack of motivation of team members and supervisors, training program provided to the operators was not sufficient to assist the equipment and no total productive maintenance strategy is implemented.

The equipment quality performance was considered in general for the all factory, as the lack of information and data registered in the production management information systems is not reported by workplace.

The quality value was calculated analysing the rework processes related with the pieces not produced as good, on the first time, it was calculated that in one year a quantity of 38 parts were rejected in a range of 1400 pieces produced.

This ratio resulted in the value of 97,3%. The Overall Equipment Effectiveness results are shown in figure 5.

The analysis of the workplaces are aligned with some of the problems of the global analysis, considering, the low values of capacity available are in line with the presence of operator in the workstation, which is very low considering that this analysis was only performed as theoretical forecast.

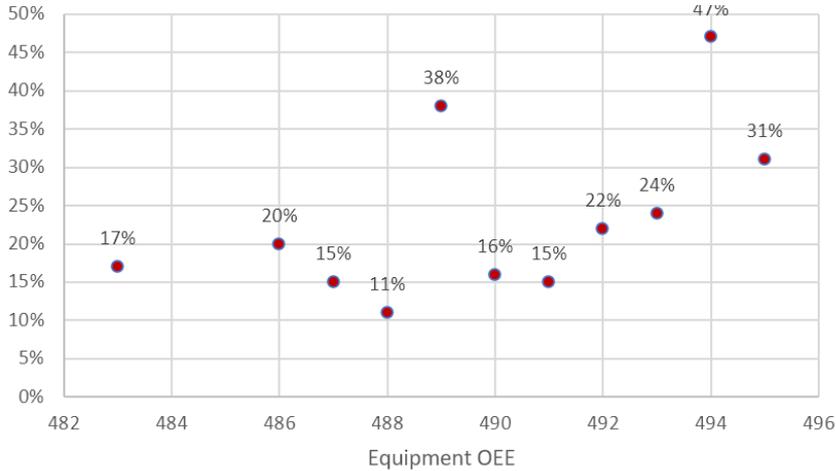
The equipment setup time is very high with an of 18%, as the production plan can not prevent the huge number of exchanges dies at all the processes.

Considering maintenance rates of the equipment and tools we can report they are very low with an average of 1%, this could be a good result if the maintenance activities were performed during the night shift, although this is not the case.

As far as the on-hold machine times are concerned, it was verified that in some equipment this incidence had values of over 50%. The running machine effective time obtain values from 29% to 79%, depending on the more or less process and workstation stability on the production plan.

Considering the operators allowed to verify that they were out or the workstation about 49% of the 8-hour shift, in 12% of that time they were doing transport operations, 2% of time they were in the supervisor´s office, and 86% locking for lost raw materials in the factory shop floor.

Figure 5. Computer Numeric Control – Equipment Overall Equipment Effectiveness



Source: data of the surveyed company.

Solutions

After determining the root causes for the identified sources of waste, this work proceeded with the developing of solutions that aim to minimize them.

Implementation Plan

As verified in literature review, lean transformation needs to be supported in a very robust actions plan and is supposed to act as continuous improvement process, along the time.

So, a lean implementation plan was defined by adapting the Lean Staircase plan reviewed. From the first to the fifth stage referred in Lean Staircase, it is crucial that the company revise their organizational structure and rightly divide the responsibilities between top management and production supervisor (Madaleno, 2018).

It's also needed that the company seek for new ways of funding to support some of the solutions suggested in this work.

The sixth stage of Lean Staircase suggests diagnosis, and that was already done by this work. The plan proposed by this work is about the last stage of the Investment phase of Lean Staircase and the first and second stage of the second phase. It is scheduled to last twelve months divided in three phases. The plan is schematically represented in figure 6 (Madaleno, 2018).

In the first phase the factory is expected to implement the logic of the 5S method. In order to achieve that, is necessary for the capital to be invested in purchasing some tools and accessories for all the machines that are missing. Hence, it is mandatory that inventories are made to determine what is necessary.

This implementation is to be made during the first phase but should be audited periodically in the remaining phases of the plan. Also, during the first phase the factory should implement visual planning and standardization of filling production records. This standardization needs the operators to be taught about how to use the software in the most effective and easy way.

It is suggested to the factory to do workshops about the software and if necessary, involving the software developer in this training sessions. The daily kaizen could be progressively introduced in the first phase but there will not be the necessary rigorous and trustworthy results obtained with the standardization of records to discuss.

Nevertheless, it can be implemented during the first phase to discuss the progress of the other actions to be introduced. In the second phase is expected of the factory to implement Single Minute Exchange Die and strategies of problem solving, like the A3 report and 8D, the strategies of problem solving can be discussed during kaizen events following the sequence of defining a purpose, identifying the adequate processes and involving people.

They are a good tool to discuss problems that can be identified during implementation and to come up with solutions. This allows to increase the motivation of operators and delegate in them some of the responsibilities. The kaizen, which must be fully implemented at this phase, needs to happen in both daily period and occasionally with kaizen events.

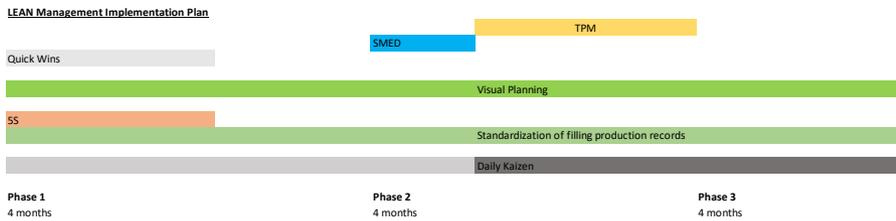
The kaizen events can be used to define the necessary Key Performance Indicators to visually expose to the factory in the daily information board. Also, during the daily kaizen events it is suggested to expose the planning of production or maintenance schedule, the setup standard time, equipment availability, and part lead time (Nordin & Adom, 2016).

In the third phase the top management is expected to implement Total Productive Maintenance, relying to external maintenance services. It is suggested to introduce the concept of self-maintenance among operators for the simplest actions once again this allows to increase motivation of workers and the delegation of responsibilities.

The remaining solutions proposed in first and second phases are supposed to be continued and to be assessed frequently. This implementation plan aims to optimize the performance of setup time using the Single Minute Exchange Die technique and at the same time work in order to decrease the production part – numbers lead time by improving the planning process and consequently promoting a better result on the Added Value/Non – Added Value ratio.

These set of operational actions will also contribute to increase the Overall Equipment Effectiveness, by the long-term improvement in production planning and total productive maintenance processes. Concerning the organizational culture, the plan predicts the dissemination of lean philosophy and continuous improvement. The success of the actions plan implementation will be dependent on the management cultural change (Hermawati & Mas, 2006).

Figure 6. Implementation Plan



Source: own elaboration.

Single Minute Exchange Dies

The implementation of a standardized setup procedure aims to minimize the total time the machine is stopped to change any piece, the setup processes monitored during the initial assessment were analysed with the Single Minute Exchange Die, which is represented in figure 7.

The method allowed to distribute the tasks performed by the operator in direct and indirect, meaning that all activities that could be done with the machine running were indirect and those who are performed with the machine stopped are direct, corresponding to the first and second phases of Single Minute Exchange Die process.

Due to the kind of direct activities analysed, some of them were categorized as indirect that could be minimized, this corresponded to the third phase of Single Minute Exchange Die process. In order to eliminate the time of indirect activities from the setup procedures and minimize the direct, three setup related procedures were defined: a pre-setup, a setup, and a post setup procedure (Madaleno, 2018).

The pre-setup is related to the preparation of all the things a setup requires. It involves the information about the setup and materials gathering like cleaning items and fastening devices. It also involves the preparation of the piece to be loaded into the machine, like verifying its position, defining clamping system and verifying if the dimensions are correct.

Moreover, during the pre-setup, it is crucial that the operator responsible for transporting the piece from its location to the workstation to perform the cleaning of the piece to be put in the machine, prepare all related tools, and verify the Computer aided Manufacturing program.

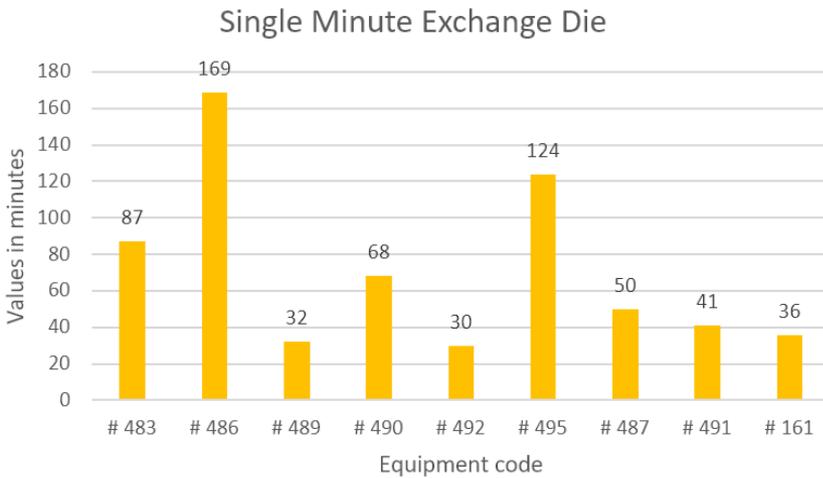
The setup procedure is done with the machine stopped, during this time, the operator must control the dimensions of the piece that will exit the machine, remove its clamping fixtures and the piece, clean the interior of the machine, position the new piece, and define centres of the new piece to introduce this information in the Computer aided Manufacturing program.

Also, during this time, it is required to insert the dies prepared during the pre-setup and select machining programs, after the setup, the operator must perform a post-setup procedure that aims to do storage of the items used during the process.

The implementation of the new processes would result in a decrease of an average of 23 minutes with the strong reduction of indirect tasks represented in figure 7, corresponding to the second phase of Single Minute Exchange Die process, in general, a reduction of 31% of total setup time was forecasted, with an interval of values from 10% to 2%.



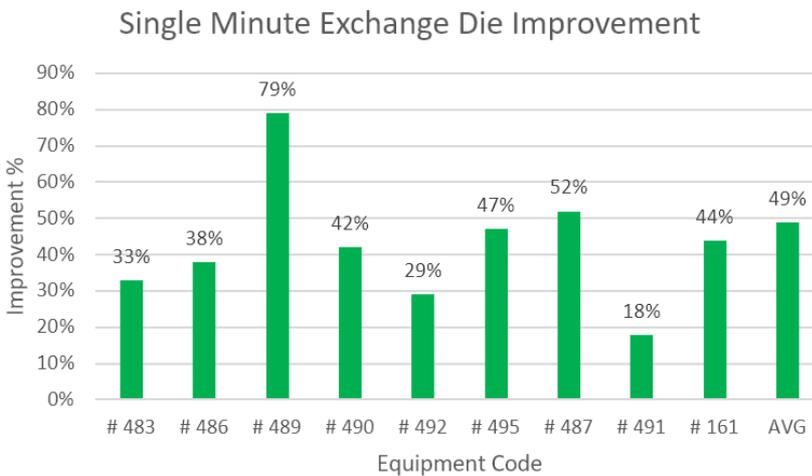
Figure 7. Single Minute Exchange Die – average analysis results



Source: data of the surveyed company.

The improvement of the direct operations related to the third phase of Single Minute Exchange Die, is expected to minimize total setup time by 18% to 79% with an average of 49%, all the key elements are reported in figure 8.

Figure 8. Single Minute Exchange Die – average implementation results



Source: data of the surveyed company.

Production Planning

As verified during the assessment, planning decisions were a major reason to much of the wastes identified, both in production and maintenance level. Because maintenance planning is a subject for Total Productive Maintenance, this solution shows only the approach to the production planning, in order to do that, two planning situations were compared: one with the practices used by the factory, and other with new procedures proposed by case study research.

To compare the two situations, it was required that a skills table (competencies mapping) be defined, that can be used to have 16 parts (pieces) and two possible machining operations, roughing and finishing. The time available to complete the machining of each part is named AT – Available Time. Skill Table used is defined in table 3.

Table 3. Skill Table (competencies mapping)

Part	Roughing (h)	Finishing (h)	AT (h)
	Machine 483	Machine 495	
1	8	3	24
2	4	5	24
3		15	84
4		8	36
5	7	4	36
6	8	7	96
7	10	6	48
8	10	9	48
9	1	9	108
10	3	3	60
11	3	1	60
12	9	4	120
13	1	8	72
14	1	8	72
15	8	8	132
16	4	5	132

Source: data of the surveyed company.

Due to the purpose of this case study the idea, is only to compare the decision priorities during production planning definition, some assumptions were raised:

- The Setup processes would only happen during the time frame of day-shift with operator, from 8am to 5pm, and not during lunch time between 1 pm and 2 pm.
- Setup times are equal for both cases, lasting 1h.
- Operating length time is aligned with the standard defined by the engineering department.

Note: it is not considered the Total Productive Maintenance improvements of the equipment.

To compare the results for each case, some Key Performance Indicators were defined, for instance part lead time (LT), average lead time (LTM), availability of equipment's (Ava.), ratio between nightshift usage and nightshift available (blind shift), ratio of pieces delivered with delay, difference between TD and LT (Difference) and ratio between LT and TD (TD usage) (Madaleno, 2018).

At the moment, the plant management had just one decision planning rule, which was the time available to complete process tasks for the piece and a process principle, roughing in machines with lower performance and finishing in machines with higher performance.

Values for main Key Performance Indicators for the decision rules used by the plant management are reported in table 4.

Table 4. Key Performance Indicators – Results for the production planning

Part	LT (h)	Difference (h)	TD usage
1	28	-4	117%
2	33	-9	138%
3	166	-82	198%
4	9	27	25%
5	53	-17	147%
6	176	-80	183%
7	61	-13	127%
8	82	-34	171%
9	186	-78	172%
10	100	-40	167%
11	102	-42	170%
12	149	-29	124%
13	111	-39	154%
14	129	-57	179%
15	207	-75	157%
16	198	-66	150%
Average	112		149%

Source: data of the surveyed company.

Defining planning with plant management decision rules resulted in LTM of 112 hours and a delay in 15 pieces, or 94%. Also, the usage of available time (TD) is about 149%, which means machining of parts usually takes more 49% than the available time.

In relation of machine results, this planning resulted in 48% and 50% of availability for equipment 483 and 495, respectively. Effective time reported is 31% for 483 and 29% for 495.

The processes change in order to support management actions plan, raised the goal of increasing availability of equipment, assuring its maximum usage considering the skills table and the available time to operate the products. The List of proposed procedures, were as follow:

- 1) Maximization of setups performed in dayshift (giving priority to low volume operations during dayshift).
- 2) More Effectiveness on shift occupation.

3) Standard time reduction to complete parts, promoting a productivity increase.

These procedures consider the operation process to be performed in one single equipment, eliminating the need of a second setup for the same part, the second decision idea is the best one out of two possibilities, namely the maximization of daily setups and the usage of nightshift and the last decision step is based on the time available to operate each piece.

Once these procedures are based on the operation on a single machine, it is necessary to calculate the time necessary to perform the complete process in both machines for each piece. So, an evaluation indicator needs to be calculated, based on the performance values analysis, related with Overall Equipment Effectiveness reporting.

The indicator of the equipment 483 performance and the equipment 495 performance results in the value of 0.59, this value needs to be confirmed when performance improvements will be obtained from Total Productive Maintenance, strategies and operations.

The time to perform the single process on each machine for each piece was calculated based on the results of Equation 1 and Equation 2 (Madaleno, 2018).

Equation 1 – total time for equipment 483

Total time 483 = Machining time 483 + (Machining time 495/Performance Ratio)

Equation 2 – total time for equipment 495

*Total time 495 = Machining time 483 * Performance ratio + Machining time 495*

The updated job matrix with both possibilities of machining for each part is shown in table 5.

Table 5. New version of Skills table (competencies mapping)

Part	Total time 483 (h)	Total time 495 (h)	TD (h)
1	13	8	24
2	12	7	24
3	24	15	84
4	13	8	36
5	13	8	36
6	19	12	96
7	20	12	48
8	25	15	48
9	16	10	108
10	8	5	60
11	5	3	60
12	15	10	120
13	14	9	72
14	14	9	72
15	21	13	132
16	12	7	132

Source: data of the surveyed company.

The results of the Key Performance Indicators for the management actions are represented in table 6.

Table 6. Key Performance Indicators results for the effective management actions

Part	LT (h)	Difference (h)	TD usage
1	105	-81	438%
2	8	16	33%
3	46	38	55%
4	110	-74	306%
5	129	-93	358%
6	26	70	27%
7	69	-21	144%
8	24	24	50%
9	65	43	60%
10	30	30	50%
11	6	54	10%
12	83	37	69%
13	87	-15	121%
14	135	-63	188%
15	48	84	36%
16	56	76	42%
Average	64		124%

Source: data of the surveyed company.

Production plan done with proposed procedures have obtained results in LTM of 64 hours and a delay in 6 pieces, or 38%. Also, the usage of available time (AT) is about 124%, which means machining of parts usually takes 24% more than the available time. In terms of machine results, this planning resulted in 76% and 67% of availability for machine 483 and 495, respectively, blind shift usage is 68% for 483 and 55% for 495.

Models Validation

It was verified that some of the external and internal factors proposed by Hamid (2011) had some influence on the diagnosis results obtained, the problems related with the top management can be categorized in the Hamid's proposal as far as the planning and decision-making process are concerned.

Another evidence of Hamid's factors is the existence of operator issues related to the assistance of the machines resulting in the decrease of the

performance value for the equipment, the resources availability is also a concern that was verified, and it is in line with Hamid's proposal (Madaleno, 2018).

For the implementation plan, it was verified that the proposed solution tools had to be adapted to the company as predicted, like Single Minute Exchange Die and implemented with realistic milestones (Almanei, Saloniitis, & Xu, 2017).

The involvement of operators is also considered, assuring their motivation and development of a lean thinking philosophy (Matt & Rauch, 2013), the top management involvement is also a concern, assuring its elements to be completely focused on the objectives and committed with the results achievement (Antosz & Stadnicka, 2017).

Conclusion and Future Research Lines

Conclusion

The current paper was been developed based on a presentation of a review of some models which tried to categorize the factors that a possible lean management philosophy implementation in Small and Medium Sized Companies is on dependence, a practical project case analysis was conducted, comparing each model and its categorization, revealing common aspects and their differences, the adaptability of lean tools in this category of enterprises was tested as well.

A lean production and management case study plan was followed, of course, according and verified in the literature review, that stated that it was necessary to perform a lean assessment to evaluate a manufacturing system and to be able to identify its added value levels, non-added value tasks and waste sources in the processes.

In order to support the analytic model, the main monitored processes were the setup of equipment, the lead time of parts, the Overall Equipment Effectiveness of Computer Numeric Control equipment and a detailed analysis of the processes workstations was been done.

According to the above-mentioned research actions we could identify the major categories of issues that were related with the high incidence of waiting time in the lead time parameter, huge amount of time for performing the equipment setup and low values of equipment availability and performance.

After that and to minimize the impact of some of the situations identified during the initial assessment, a practical approach supported in the lean management solutions were implemented, like a lean implementation plan, a Single Minute Exchange Die tool, and a production planning based on the pull system for the better allocation of pieces and machines.

The goal for Single Minute Exchange Die implementation was to decrease total setup time and increase the organizational level of the production areas.

The new production planning philosophy aimed to increase machine availability and in consequence to obtain better results on the Overall Equipment Effectiveness indicator, as this was one of the most important factors for the calculation.

A check verification was performed for each of the proposed solutions obtaining much better results than the previous ones. The implementation plan was adapted to the company and its reality, assuring the minimization of the failure risk according to the failure factors proposed by models of various researchers addressed (Madaleno, 2018).

So, the main conclusions of the case study, can be addressed in two main categories, first related to the need to simplify the lean implementation process in SMEs. The second was considered in terms of being compared with large companies (Dennis, 2015).

In addition to that we can refer to the first aspect, we can understand that the implementation will be consolidated using base tools of the lean philosophy, 5S and Single Minute Exchange Die in particular, for improvements in the Setup time performance and Overall Equipment Effectiveness results.

The biggest difference found for large companies is that in reality, the creation of an integrated management system becomes more complex, with most of the potentialities of the lean management philosophy.

The opinion is that the levels of lean implementation will not be uniform in all organizations and that holistic functioning systems may be possible in organizations with greater capacity to maintain them as their fundamental management model (Basu, 2019).

The final approach, supported by the LEAN management philosophy, promotes a cultural change in the management style of companies in general, and SMEs in particular, because it creates a context of professionalization to the detriment of family operation and based on empirical and social situations that are not supported in a scientific thinking of professional management.

The cultural change established and supported by professionalism comes from the creation of a sequence of thought, through the development of a purpose for the decision process change, generation of knowledge about the elements and tasks to analyse, a behaviour supported by the example and creating expectations in the face of results, supported on a philosophy of management by objectives (Romme, 2016).

Future Research Lines

Naturally, we understand some limitations in the study, as it is a specific case with a strong capacity and opportunity for improvement. Thus, we defined two fundamental and converging options as future lines of research (Romana, 2014; 2016a), which would be the possibility to compare the results over time with other industrial organizations and apply the study methodologies to companies in non-industrial sectors, such as logistics and services (Romana, 2016b).

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The Study of Students' Talents and Skills as the Starting Point in Narrowing the Skills Gap of Human Resources in the Tourism Sector

ABSTRACT

Objective: The article refers to the measurement of natural talents and skills of students in an internationalised environment and possible use of empirical research to modify university curricula. The article aims to determine how to design and implement skills models to increase education efficiency and to adapt the curriculum to the labour market expectations.

Methodology: The evaluation was based on three empirical surveys conducted among students of a highly internationalised university: the Gallup test measuring natural talents, the Filipowicz test (measuring skills) and a poll among students, diagnosing their expectations as to student apprenticeships and traineeships.

Findings: Using the aforementioned tools allowed to identify strengths of university students in tourism programmes and to indicate areas for improvement during education.

Value Added: The conclusions drawn from the survey allowed to confront students' skills with employers' expectations and to develop student support methods, e.g. through appropriate modifications of curricula and traineeship programmes. University courses were extended to include modules reinforcing students' enterprise, the management of individual potential, cross-cultural communication and negotiating skills.

Recommendations: Such survey enables the creation of a talent bank among students where their talents – reinforced with the knowledge and skills acquired at university – will help develop their strengths and can be particularly useful in selected posts.

Key words: measurement of students' talents and skills, skills gaps, tourism, student traineeships and apprenticeships

JEL codes: J24, I21, M530

The substance of the issue. A review of the literature

The phenomena shaping the present labour market whose needs determine the preparation of university students change with exceptional dynamics (*Aktywni+ Przyszłość rynku pracy...*, 2017). In the past decade, there have been major developments: from an employer's market during the 2008 crisis to an employee's market 10 years later. Such changes require employers to prepare and follow various strategies for building their competitive advantages and employees need to cope with rapid changes in the job market and to adapt to its requirements. Major challenges are also faced by universities as they should provide learning results adequate to business expectations. Various surveys of employers, university teachers and students indicate a number

of skills gaps in human resources, both those already present in the labour market and persons preparing to take up employment. That phenomenon is also observed in other European countries (*Mapping and performance check...*, 2016). Such gaps are commonly understood as discrepancies between the skills taught at university and the labour market needs (Wartec-ka-Ważyńska, 2014; *Badanie opinii pracodawców...*, 2017–2018; *Narzędzie do badania 11 kompetencji...*, 2013; Wieczorek-Szymańska, 2012). It also concerns the tourism sector (*Badanie opinii pracodawców...*, 2017–2018) which additionally struggles with the shortage of skilled workers in many European countries. In the present labour market in tourism, the employee is expected to have not only knowledge and professional competence but also various interpersonal skills and personality strengths such as: communication, creative thinking, openness to experience, teamwork, emotional stability, stress resilience, willingness to learn, motivation or even optimism and enthusiasm (*Aktywni+ Przyszłość rynku pracy...*, 2017). Changes in the labour market and the need for mutual adaptation to expectations require significant flexibility from all the parties – labour market players, openness to upgrading skills and non-routine action (Piotrowski, 2017). Account must be taken of both employers' expectations and needs on the one hand and potential employees' capabilities and expectations on the other hand. According to recent research (*The Skillful corporation...*, (n.d.); Dworak, 2015) the recipe for the development of the Polish economy is to adapt educational programs to the needs of the labour market. Jagiellonian University has been monitoring the labour market since 2009, resulting in a Nationwide Human Capital Balance (2019) to identify areas of competence mismatch with labour market needs.

An enormous role in the process is played by higher education, increasingly required to prepare students for practical work in various tourism sectors. However, curricula must also take into consideration the behaviour and expectations of young people from generations entering the labour market (millennials, generation Z), frequently showing unconventional aspirations in

life, creative, more focused on themselves and success-oriented (Millennial Survey, 2018, 2019). Attitudes of the young generation pose a challenge to the labour market and must be considered both by professionally prepared employers and universities teaching skills needed in employment (PwC Survey..., 2019). They involve creating curricula, specialties and modules adapted to the labour market needs and expanding cooperation of the socio-economic environment with academia. This is also the direction of the 2018 legislative solutions in Poland imposing an obligation to extend apprenticeships.

Materials and methodological assumptions

The article aims to determine how to design and implement skills models to increase learning efficiency – especially in an international academic setting – and to adapt to the labour market expectations. It analyses three determinants of the correct selection of students as future employees for specific posts in the tourism sector: (1) their natural talents – strengths; (2) skills acquired; and (3) their expectations towards the labour market compared with employers' requirements. The analysis conducted in the article was based on the available literature, particularly on employers' opinion poll on the present and future skills of tourism workers (desk research) as well as on three empirical surveys of tourism and recreation students: (1) a survey intended to identify the students' career plans and expectations towards employers, (2) a survey of the students' natural talents using the Gallup test (CliftonStrengths assessment, formerly Clifton StrengthsFinder), (3) a survey of skills using the Filipowicz test. A major source of information on employer expectations was employers' opinion poll on the skills gap in human resources in tourism in Poland in 2017–2018 (*Badanie opinii pracodawców...*, 2017–2018).

As regards the first of the surveys indicated above (survey 1), the main objective was a better understanding of the students' career plans and expectations towards employers, discussing the students' opinions with representatives of the socio-economic environment (including managers of

hotels, travel agencies and business travel operators), followed by making use of the findings to modify the apprenticeships, traineeships and jobs offered by the University. The survey was conducted as a diagnostic poll among tourism and recreation students at a highly internationalised Warsaw university. It was based on an extensive questionnaire containing 17 substantive questions and 5 questions about the respondent. The scope of research, covering traineeships, apprenticeships and the students' career plans, had been consulted with representatives of tourism enterprises.

The various skills gaps pointed to by undertakings (*Badanie opinii pracodawców...*, 2017–2018) inspired the survey of natural talents of tourism students and their skills, followed by measures aimed at appropriate adaptation of curricula. The study of talents was based on the Gallup test (survey 2); its aim was to identify the students' talents among the Clifton StrengthsFinder thirty-four themes grouped in four domains described in the Gallup skills test: Strategic Thinking, Executing, Influencing, Relationship Building (*Maximize Your Human Capital...*, 2019).

The study of talents and professional aptitudes was carried out on a group of 163 tourism and recreation students with the use of two research tools:

- the Gallup StrengthsFinder test (<https://www.gallup.com/cliftonstrengths/en/254033/strengthsfinder.aspx>);
- the Grzegorz Filipowicz skills test (<https://e-kariera.vistula.edu.pl>).

It allowed to show the correlation between talents understood as patterns of thinking, behaviour and action bringing the best results (Rath, 2007) and skills acquired thanks to individual attitudes, knowledge development and practice (Filipowicz, 2019). The study was conducted in an international group of students nearly half of whom (48.4%) were Ukrainian, 25.2% – Polish, 15.7% – Belarusian, whereas other nationalities accounted for 10.7%.

Empirical research results

The observations from the poll, aimed at identifying students' career plans and expectations towards employers (survey 1), are consistent with national and global social surveys indicating a new way of life of the generations entering the labour market; all of them highlight the focus on work-life balance (*Młodzi 2011 Report*; *Millennial Survey, 2016, 2018*). The surveys conducted among students indicate expectations of development and self-fulfilment opportunities and attaching importance to a good working atmosphere and soft skills of the employer (the ability to create a good working atmosphere, the employer's fairness, the ability to establish a relationship with the employee/apprentice/trainee). The survey reveals that students formulate different expectations towards traineeships and apprenticeships from those concerning their future jobs. According to the students surveyed, the perfect traineeship is primarily one that offers opportunities for development, shows the promotion path, allows to gain practical work experience (39% of indications). Much fewer indications (18.8%) refer to financial expectations (remuneration, perquisites, benefits), followed by soft skills of the employer (the working atmosphere, fairness, communication – 13.4%). Surprisingly, students attach little importance to opportunities for establishing international relations, business relationships or the firm status (4.2%, 2.9% and 1.7% of indications respectively). Considering the internationalisation of education and various student mobility support opportunities (e.g. Erasmus+), one may infer that establishing international relations is not an end in itself for students and that apprenticeships at small businesses are more beneficial than those at large and renowned corporations/chains/networks. Those trends, opinions and observations must be considered in both business management and the preparation of future human resources at universities. Traineeships and apprenticeships, playing an increasingly important role, must become a fully recognised method to verify learning results and to bridge the skills gaps between students' skills and the labour market needs. However, it is

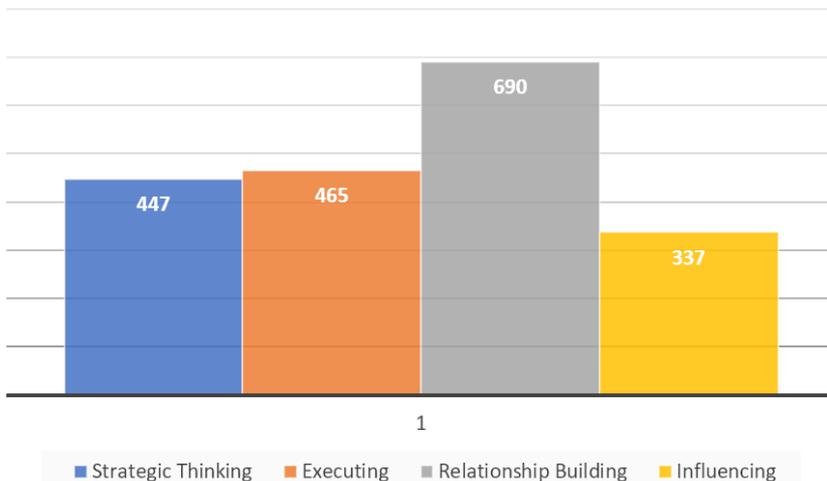
worth identifying and taking account of the expectations and aspirations of the students themselves as they expect not only fair financial remuneration of their work but also opportunities for personal development and finding life-work balance. In that context, it must be emphasised that employers – seeking soft skills in their future employees – should also develop them in their own environments (a good working atmosphere, fairness, responsibility).

As regards the study of talents (survey 2), the Gallup test distinguishes between 4 talent domains:

- 1) Relationship Building domain;
- 2) Strategic Thinking domain;
- 3) Influencing domain;
- 4) Executing domain (Rath, 2007).

According to the empirical research results, tourism and recreation students mostly show talents from the Relationship Building domain (figure 1).

Figure 1. Talent distribution among tourism and recreation students

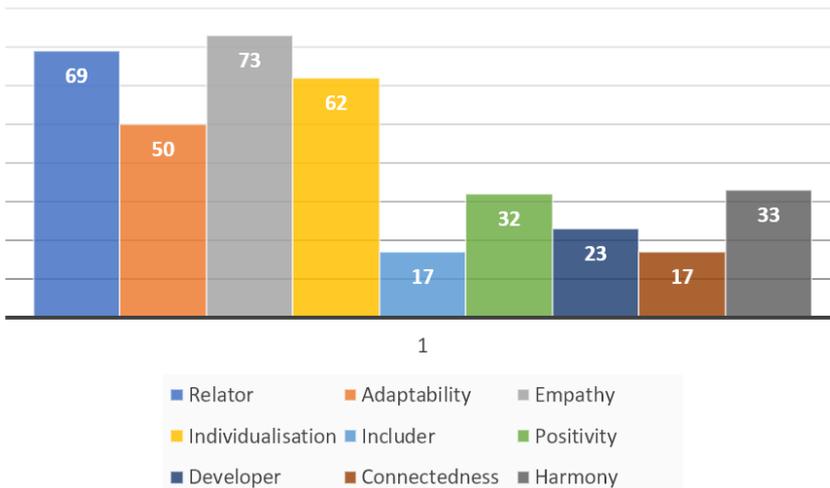


Source: research by the authors.

In the Relationship Building domain, Gallup distinguishes between 9 talents, the so-called *themes* (Rath, 2007) – those characterise tourism and recreation students in the following order:

- empathy, i.e. understanding other people's emotions and the ability to respond;
- relator, i.e. the ability to establish and build lasting relationships;
- individualisation, i.e. the ability to identify and adapt to the needs and expectations of individuals;
- adaptability;
- harmony;
- positivity, which means a positive attitude towards people, situations and problems;
- developer;
- connectedness.

Figure 2. Talent distribution in the Relationship Building domain

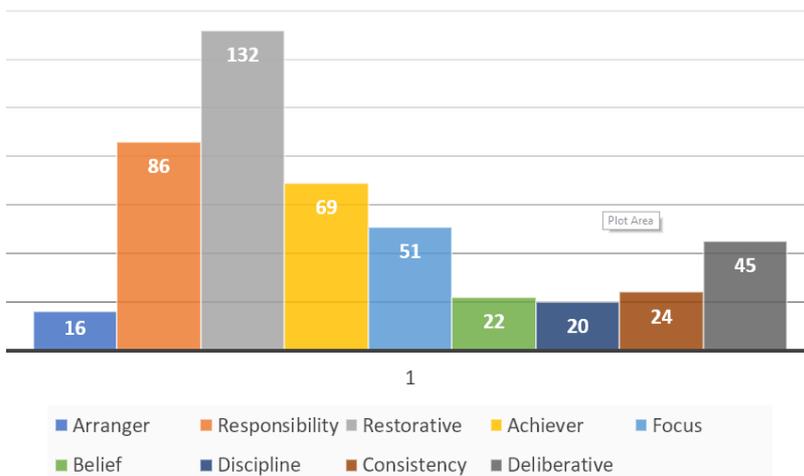


Source: research by the authors.

The second most frequent group of talents shown by the students surveyed appeared to be those from the Executing domain (figure 3). The themes from the Executing domain were found in the following order:

- restorative, i.e. solving problems and supporting other people in dealing with theirs;
- responsibility;
- achiever;
- focus;
- deliberative;
- consistency;
- belief;
- discipline;
- arranger.

Figure 3. Talent distribution in the Executing domain

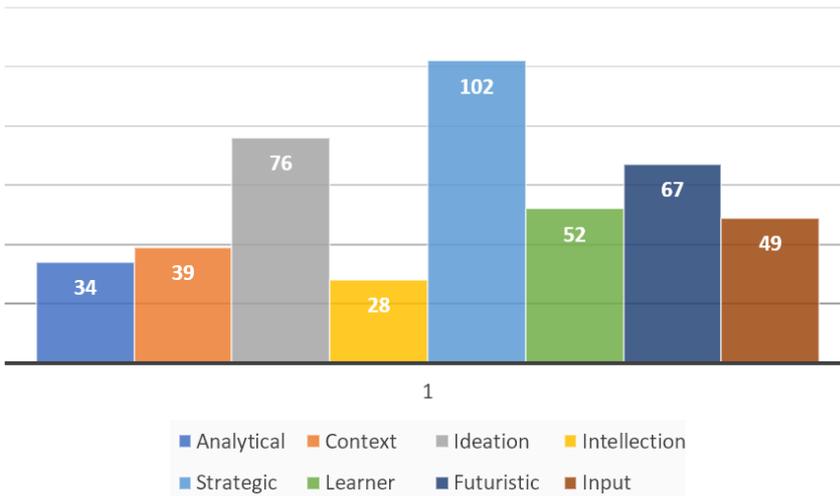


Source: research by the authors.

Nearly the same role was played by talents from the Strategic Thinking domain, in particular the Strategic, Ideation, Futuristic and Learner themes (figure

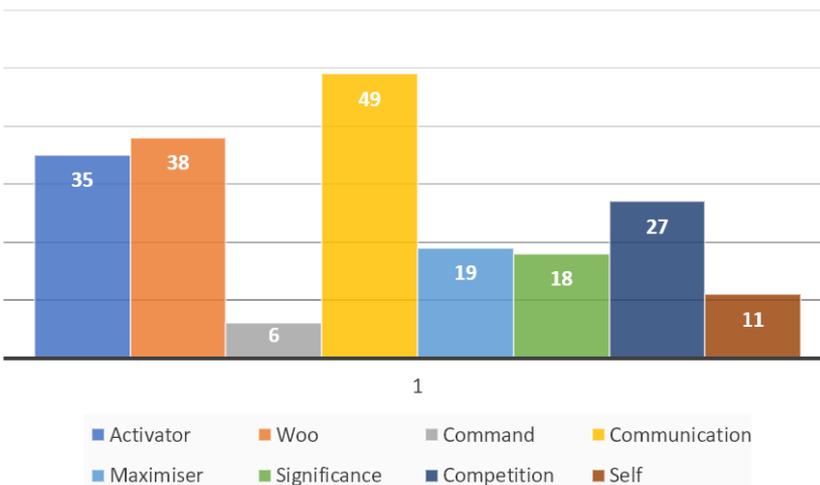
4). The least important talents were those included in the Influencing domain, the Communication, Activator and Woo themes being the most frequent – figure 5).

Figure 4. Talent distribution in the Strategic Thinking domain



Source: research by the authors.

Figure 5. Talent distribution in the Influencing domain



Source: research by the authors.

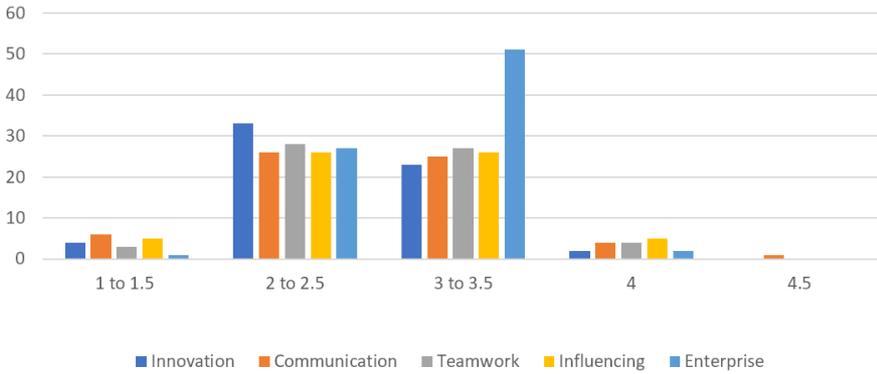
As regards the survey of students' skills (survey 3), it allowed to divide those into: professional, self-organisational (self-management in time, independence, taking initiative, stress resilience), interpersonal (the ability to communicate, cooperation in a group) and the so-called soft skills (e.g. communication). The survey results for each skill were interpreted based on a rating scale identifying five levels of skill acquisition. The outcome allowed to infer on the respondents' level of acquisition of the skill concerned. The survey conducted and the interpretation of its findings followed the principles of skill measurement discussed in various studies by G. Filipowicz (2002; 2019). As demonstrated by preliminary results of the students' survey, the most significant strengths of those surveyed are *innovation and communication*. Full results of the survey were analysed in consideration of basic variables characterising the respondents (gender, nationality; the nationality variable was taken into account due to high internationalisation of the student community surveyed).

The Grzegorz Filipowicz skills test examines 32 skills – the surveyed group of tourism and recreation students took a test verifying levels of the following skills:

- innovation;
- communication;
- teamwork;
- influencing;
- enterprise.

The survey identifies the level of each skill on a scale of 0 to 5.

Figure 6. Level of specific skills of tourism and recreation students



Source: research by the authors.

Discussion: skills gaps and directions of bridging them

Although the notion of *skills* is not related to a single and widely accepted definition, they are usually understood as combined knowledge and abilities gained and developed during education, whether formal or informal, allowing the acquisition of occupational competence necessary to function efficiently in the domestic and international labour markets (*Zintegrowana strategia umiejętności 2030*, 2019). Regardless of the definition adopted, skills are associated with the possibility to perform differentiated functions at work, whereas in the area of tourism – with preparedness for taking up various posts, the possibility to combine functions (e.g. of tourist and travel guides) and openness to new requirements emerging along with new products and forms of tourism. According to surveys conducted in 2018–2019 within the project entitled ‘Increasing the knowledge of occupational competence needs’ among employers in the tourism sector, analysing the level of skills involves distinguishing between and separate examination of several key sub-sectors: travel agencies, hotels, food- and beverage-serving establish-

ments, travel guides, wellness tourism, leisure and entertainment. In spite of different expectations towards persons employed in the abovementioned sub-sectors, the surveys showed an unquestionable role of the following three skills: (1) communication, leading to competence in areas such as customer knowledge, the ability to establish relations and to develop desirable relationships; (2) influencing, allowing to solve problems and relating to negotiating skills; (3) teamwork skills facilitating decision-making and human resource management (*Badanie opinii pracodawców...*, 2017–2018). The analysis conducted under the abovementioned project pointed to the usefulness of soft skills such as cooperation/working together with other people, problem solving, creative thinking, human resource management, emotional intelligence, inference, negotiation and decision-making (*Badanie opinii pracodawców...*, 2017–2018). Considering the unquestionable fact of changing tourist needs and – thus – the emergence of new products addressing new needs, it is worth including innovation and adaptability in the education process. With regard to the aforementioned skills, the surveyed representatives of travel agencies indicated preparedness for implementing innovative products/services, new IT solutions, seeking new channels of promotion and new ways of building and maintaining customer relationships as well as providing travel advice. Employers in the hotel industry expect preparedness for implementing new technologies, the use of online communication for contacting customers, conducting promotional campaigns, price management and functioning in the environment of the electronic sale of services (*Badanie opinii pracodawców...*, 2017–2018).

The analysis of key skills indicated by businesses raises the question about the degree to which those expectations are reflected in the learning results, the adopted curricula and the level of skills acquired by students (table 1).

Table 1. Expected skills and abilities

Skill	Expectations		Average level of the skills analysed**
	In the curriculum: the learning results assumed in the curriculum	Of employers*	
Innovation and adaptability	inspiring action, using modern methods, technologies, procedures and tools, including information and communication technology	using modern information sources, the ability to adapt to changing and not fully predictable conditions, adjusting actions to the circumstances, the ability to create innovative programmes for package travel	2.85
Communication	communicating with the use of specialist professional terminology, the application of the available and business-specific ICTs in communication; communicating with the business environment in a foreign language	communicating in the business environment in a manner ensuring good collaboration with tourists, tour operators and producers of tourism services; respect of the cooperation culture; building relationships with customers; openness, politeness and empathy in the performance of tasks and functioning in multicultural settings; using social media for marketing communication; psycho-physical characteristics of a travel guide ensuring communication: voice production, verbal and non-verbal communication with a group, command of a foreign language	2.93
Influencing	inspiring professional actions, preparedness for using appropriate negotiation techniques	Negotiating skills, conscious selection of communication tools in a manner allowing to deal with difficult situations, to prevent conflicts involving package travel participants, preparedness for playing the role of an inspiring leader	2.96

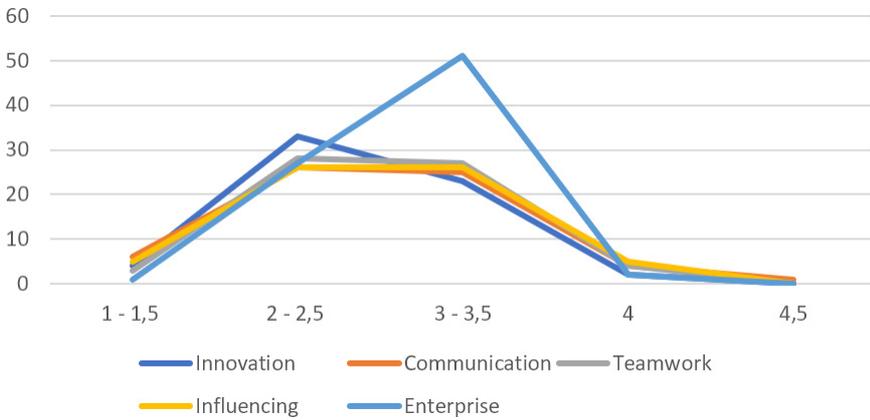
Enterprise	Willingness to think and act with enterprise; solving problems related to work activities; monitoring changes in the socio-economic environment and taking account of them in long-term planning of market operations	Skilful preparation of appropriate documentation relating to professional tasks connected with the provision of services as a travel guide and a leisure time animator, including financial documents, reporting, activity journals	4.12
Teamwork/ cooperation in a team	Readiness for leading a team, planning and organising (individual and team) work activities	Self-organisation, team management, preparing plans of individual and team performance and preparedness for adjusting them to the circumstances	2.98
Responsibility	assuming responsibility for one's actions; observing the principles of professional ethics; readiness for critical analysis, assessment and making use of such knowledge; appreciation of the importance of knowledge in resolving cognitive and practical problems; the ability to correctly select, evaluate and critically analyse information from various fields and to use it for tactical and strategic activities	taking care of tourists; preparedness for assisting tourists in dangerous situations; willingness to be patient and composed in unusual situations encountered during the performance of various professional tasks and assuming responsibility for one's decisions and actions	The skill was excluded from the survey

*Based on Recommendation No. 2/2019 of the Sector Skills Council for Tourism: Rekomendacja nr 2/2019 Rady ds. Kompetencji w sektorze turystyki https://www.parp.gov.pl/storage/grants/documents/116/ZA-CZNIK_15.2D_REKOMENDACJA-RADY-TURYSTYKI-9obowizujcy-od-15.05.2019r._190515.PDF

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**Weighted average, with the numbers of the surveyed persons having the skill concerned as weights, on a scale of 0 to 5.

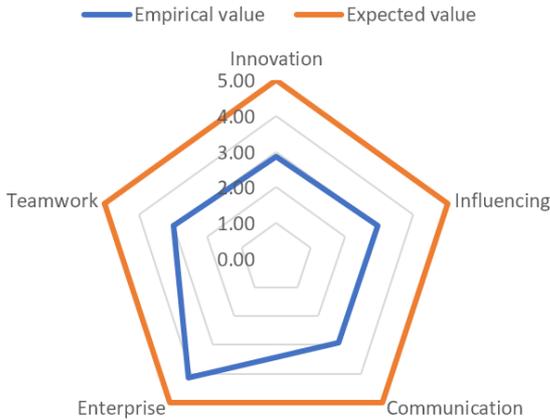
Figure 7. Levels of selected skills among tourism and recreation students: empirical research



Source: research by the authors.

According to surveys of students (in period $t = 0$, i.e. at the beginning of studies), the levels of communication, influencing and teamwork skills were similar (the majority of those surveyed had 'good' skills, ranging from 2.93 to 2.98). The lowest level of skills was found in the area of innovation and adaptability (an average of 2.85), whereas the highest score concerned enterprise (4.12). The wide gap between students' aspirations, as follows from the high assessment of enterprise skills, and their innovation and adaptability suggest that the education process should place a special emphasis on those skills. The differences between the expected and empirical levels of skills are presented in figure 8.

Figure 8. Skills gaps: selected skills



Source: research by the authors.

The examination of both the assumed learning results and employers' expectations points to *responsibility* as an important skill in the tourism sector, in particular in the sub-sector of travel guides. It should be included in skills research, especially that responsibility ranks high among the surveyed students' talents from the executing domain. Interesting conclusions can also be drawn from analysing the gap between the expectations indicated by employers and the very good survey results with regard to *enterprise*. The skill is typically associated with expectations towards managers/owners of businesses, e.g. industry knowledge, the ability to work with other members of staff and external institutions, coping with stressful situations, precise and convincing communication of one's ideas, goal setting (*Badanie opinii pracodawców...*, 2017–2018). The question arises whether the surveyed employers seek such employees. When analysing the reasons for the existence of the gap, it is worth noting that the tourism sector is dominated by small firms that tend to look for executing workers rather than for entrepreneurs or managers. Such a structure of enterprises certainly determines the indication of key skills sought in the market. At the same time, their development is fully

justified in university curricula, preparing students for performing managerial functions and starting businesses as well.

Summary

According to the survey results, a tourism and recreation student tends to be characterised by dominant talents in Relationship Building – in the Empathy and Relator themes – and in the Executing domain – the Restorative and Responsibility themes. A major role is also played by Strategic Thinking, especially the Strategic and Ideation talents, as well as by the highest levels of Communication and Woo from the Influencing domain. It is worth emphasising that the nature of the test allows to use it for comparative analysis – at the beginning and at the end of each stage of studies.

The comparison of the above results with the students' skills levels (50 persons rated very good at enterprise, 27 persons assessed as good; 33 and 23 persons rated good and very good, respectively, in innovation and adaptability) allows to characterise the students' professional aptitudes as a useful starting point for designing curricula taking account of students' aptitudes and preferences.

The results and scope of the surveys and tests conducted offer various opportunities to analyse selected student groups, including the following group selection criteria:

- the cycle of studies: bachelor programmes, master programmes;
- the mode of studies: full-time, part-time;
- nationality;
- sex;
- year.

The three-dimensional analysis of: (1) the talents of students beginning their studies, (2) the skills test results in several selected areas and (3) the expectations following from the survey of employers' needs and of the assumed learning results led to the identification of the gaps between the

students' skills and the labour market needs and the possibility to narrow them by adjusting curricula and apprenticeships and to indicate the degree to which the developed curricula and assumed learning results allow to bridge those gaps. They should undoubtedly serve as one of various sources to modify university curricula and to subsequently verify their effectiveness through skills tests taken upon the completion of education.

Using the Gallup test and the Filipowicz skills test allowed to comprehensively identify future employees' strengths and to indicate areas for improvement at university (through mentoring programmes, apprenticeships and traineeships, curricula). Conclusions based on the results of both tests and of the survey of students' expectations as to apprenticeships, traineeships and their future jobs allowed to develop and implement student support methods, e.g. through appropriate modifications of curricula and traineeship programmes. University courses were extended to include modules reinforcing students' enterprise, the management of individual potential, cross-cultural communication and negotiating skills. In the preparation of students for their working lives, it is worth remembering the necessity of continued development, applicable to every worker. Skills gaps are not permanent, they require continuous verification and bridging (e.g. amendments to legal regulations or changes in the purchasing behaviour of consumers/tourists give rise to new gaps). The study conducted not only allowed to improve the degree of curriculum alignment with the labour market needs in tourism, but it also enabled the creation among students of a talent bank where their talents – reinforced with the knowledge and skills acquired at university – will help develop their strengths and can be particularly useful in selected posts.

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Identifying and Prioritizing Ways to Improve Oman's Tourism Sector in the Corona Period

ABSTRACT

Objectives: To identify the economic, social, and geopolitical impacts of the Corona pandemic on the country's tourism industry; to identify ways to enhance domestic tourism so as to increase income in the Oman's tourism industry which has since been declining; to identify specific travel destinations and associated recovery plans; and to suggest recommendations on the best approaches to improving the Oman tourism sector.

Methodology: The research involved collection of primary data using interviews where opinions and perceptions of Omani tourism industry experts were collected regarding economic, social, and geopolitical impacts of the Corona pandemic on the country's tourism industry; the rationale of lifting travel restrictions and the ways of increasing traveller confidence amidst the uncertainties and fears associated with Covid-19 in Oman; ways to enhance domestic tourism so as to increase income in the Oman's tourism industry which has since been declining; and recommendations on the best approaches to improving the Oman tourism sector.

Findings: The main impacts of coronavirus on Omani tourism industry include loss of revenue and reduction in hotel and occupancy rate. These effects resulted into massive job losses, unpaid leave and pay cuts amongst employees in the country's tourism industry. The measures to be taken to enhance recovery of the tourism industry were categorized into two: government measures and business measures.

Value added: With the multiple adverse effects of the coronavirus pandemic on the tourism sector, this study will help in establishing the potential measures of fostering the positive outcomes in the sector.

Recommendations: Setting aside COVID-19 recovery financial kitty; Increasing the frequency of marketing the country as the preferred and the best tourist destination in the world in both local and international media; Public-private partnerships; and encouraging domestic tourism by offering discounts and incentives for the locals enjoying the country's tourism facilities. Offering discounted rates and fees; adopting a flexible booking policy; cancelling or waiving all the fees and fines that were charged on customers who cancelled or amended their bookings as result of COVID-19 pandemic; offering attractive discounts to clients who want to re-book their previous cancelled bookings without conditions; and diversification of operations.

Key words: coronavirus pandemic, tourism sector, recovery phase, domestic tourism, international tourism, and tourism destinations

JEL codes: L83, Z30, Z32

Introduction

Research Problem

The tourism sector has registered multiple adverse effects due to the coronavirus pandemic. Particularly as noted by WHO, Domestic production and

commerce were hampered by the global epidemic and mitigation strategies implemented at the outbreak. Border closures and panic purchasing resulted in a brief increase in the prices of some foodstuffs in April 2020, which has since subsided after the reopening of borders in early June. Oman took such measures by suspending all tourist visas from March 15, 2020. As a result, Oman began to register a significant decrease in occupancy rates, with many hotels registering a significant reduction in prices. With the persistence of the pandemic for several months, the tourism industry has registered economic losses, although analysts are yet to provide specific data regarding the economic impact of the pandemic on the Oman tourism industry. Oman needs to develop strategies for dealing with the pandemic while saving the tourism sector (Al-Hasni, 2021). For this reason, the research problem involves the identification and prioritization of specific ways that can help Oman to achieve positive outcomes in improving the tourism sector during the uncertain period of the coronavirus pandemic.

The Main Research Question

What are the ways in which Oman can improve the tourism sector as the industry focuses on successful recovery after the pandemic?

Objectives

- 1) To identify the economic, social, and geopolitical impacts of the Corona pandemic on the country's tourism industry.
- 2) To identify ways to enhance domestic tourism so as to increase income in the Oman's tourism industry which has since been declining.
- 3) To identify specific travel destinations and associated recovery plans.
- 4) Suggest recommendations on the best approaches to improving the Oman tourism sector.

Research Significance

With the multiple adverse effects of the coronavirus pandemic on the tourism sector, this study will help in establishing the potential measures of fostering the positive outcomes in the sector. The tourism industry has registered a 60–80% decline, and there is an evident need for potential recovery measures. Just like other countries, Oman has not had immediate measures to mitigate the adverse effects of the pandemic. The researcher will utilize a qualitative approach that will help in identifying the economic, social, and geopolitical impacts of the Corona pandemic on the tourism industry. Specifically, the study will also explore the environmental effects of COVID-19 that have led to the observed decline.

Literature Review

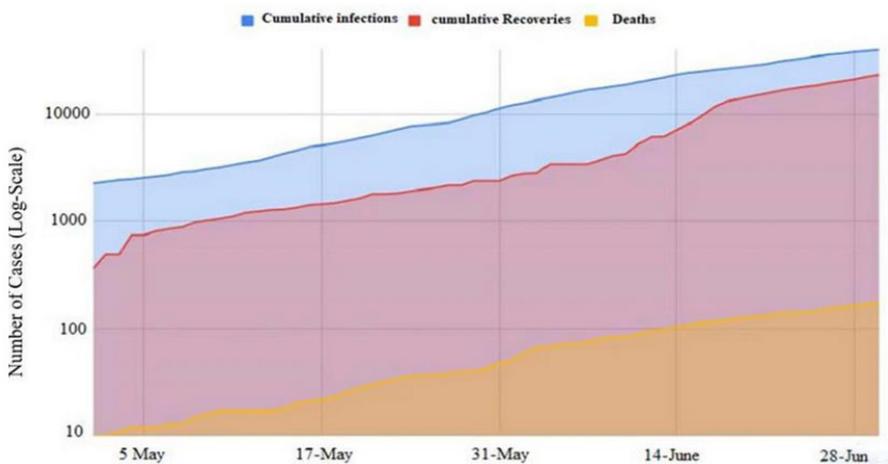
The Beginning of COVID-19 Pandemic

COVID-19 pandemic was first reported on December 31st, 2019 at a food market in the Chinese city of Wuhan when about 27 people were diagnosed with the virus (Azzi et al., 2020; Kim et al., 2020; Liu, Chen, Lin, & Han, 2020; Potus et al., 2020). These patients tended to exhibit symptoms that were similar to those exhibited by people suffering from common influenza such as dry cough, fever, and dyspnoea (Bhattacharya, 2020; Law, Leung, & Xu, 2020; Vella et al., 2020). What was common about these 27 cases was that they were traced to one of the Wuhan's wholesale seafood market (Barbuddhe et al., 2020; Bhattacharya, 2020; Lorusso et al., 2020; Saito et al., 2020; Sciacqua et al., 2020). The food market was popular in selling fish, poultry and exotic animals used as food in China such as snakes, bats, and dogs (Barbuddhe et al., 2020; Darvas, 2020; Lake, 2020; Mahdy, Waleed, & Ewaida, 2020; Tiwari et al., 2020).

Testing of samples obtained from these patients found that they were suffering from a severe form of Acute Respiratory Syndrome Coronavirus 2.

This was later named by World Health Organization (WHO) as Novel Corona Virus Disease (COVID)-2 (Barbuddhe et al., 2020; Darvas, 2020; Lake, 2020; Mahdy, Waleed, & Ewaida, 2020; Tiwari et al., 2020).

Figure 1. A log–log plot showing the growth in the accumulative, recovered, and deaths cases between 29th April and 30th June 2020 in Oman



Source: based on Al Kindi (2020).

In the initial stages that disease did not show any life-threatening symptoms and most cases associated with it were resolved spontaneously (Liu, Chen, Lin, & Han, 2020; Novick, Rizzolo, & Cervantes, 2020; Osama, Pankhania, & Majeed, 2020; Sciacqua et al., 2020). However, there was high mortality and complications in older members of society who caught the virus (Liu, Chen, Lin, & Han, 2020; Novick, Rizzolo, & Cervantes, 2020; Osama, Pankhania, & Majeed, 2020; Sciacqua et al., 2020). As of mid-January 2020, COVID-19 was reported in many other countries and as result, World Health Organization declared it an outbreak (Liu, Chen, Lin, & Han, 2020; Novick, Rizzolo, & Cervantes, 2020; Osama, Pankhania, & Majeed, 2020; Sciacqua et al., 2020). According to the WHO, the pandemic had the potential of spreading to nations around the world and nations with

weaker health systems were expected to be worst hit by the outbreak (Liu, Chen, Lin, & Han, 2020; Novick, Rizzolo, & Cervantes, 2020; Osama, Pankhania, & Majeed, 2020; Sciacqua et al., 2020). It is also stated that the spread of the disease could be minimized through instant treatment, early detection and isolation and tracking of the infected individuals and those they have come into contact with (Garcini, Domenech Rodriguez, Mercado, & Paris, 2020; Jagtap, More, & Jha 2019; Lorusso et al., 2020; Vella et al., 2020).

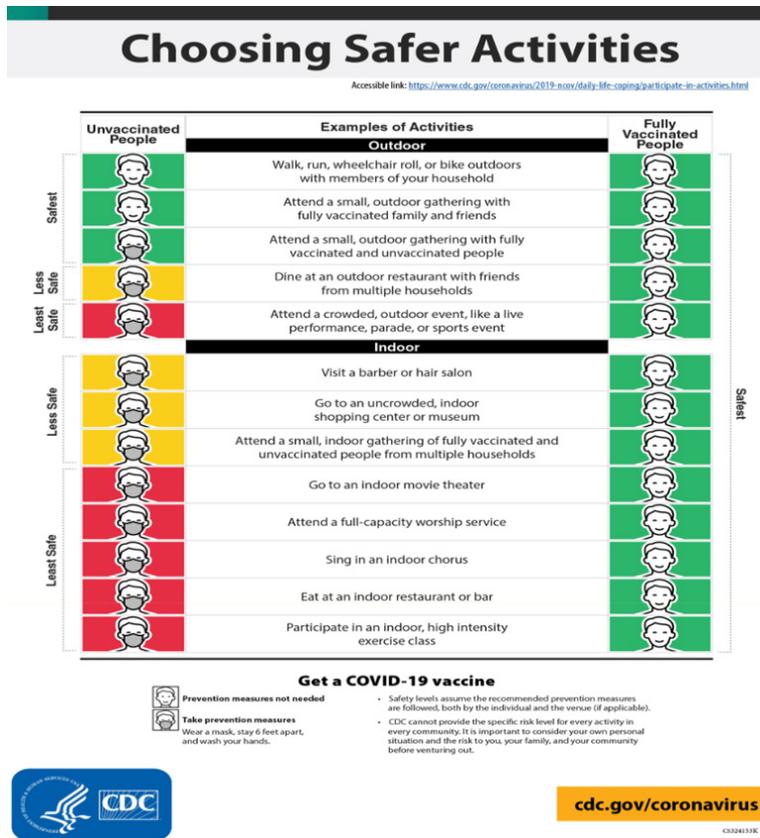
How the World Responded to the COVID-19 Pandemic

The global outbreak of the virus prompted many countries around the world to respond in the ways they believed would prevent the diseases from either getting into the country or spreading further (Varga et al., 2021). For example, United States of America responded by stopping the movement of immigrants and non-immigrants as well as closing its borders to some of the countries. In Hong Kong, all transport services were suspended (included road, air, and sea). Only essential transport services were allowed in Hong Kong (Bhattacharya, 2020; Deharo & Madanamoothoo, 2020; Jacofsky, D., Jacofsky, E. M., & Jacofsky, M., 2020; Sohrabi et al., 2020). Countries such as India, France, Germany, and Italy also took various action such as implementing total lock down and closing of international borders as ways of preventing spread of the COVID-19 pandemic (Bhattacharya, 2020; Deharo & Madanamoothoo, 2020; Jacofsky, D., Jacofsky, E. M., & Jacofsky, M., 2020; Sohrabi et al., 2020). In Palestine, all forms of transport were suspended, international borders were all closed, and many cities and jurisdictions were locked down (Alser, AlWaheidi, Elessi, & Meghari, 2020; Bahkir & Grandee, 2020; Lee, Chiew, & Khong, 2020). Oman too responded by locking down its cities and closing international borders. Other nations such as Germany, France, Italy, Spain, India as well as others implemented the above actions as a way of preventing the disease from spreading (Bhattacharya, 2020).

Response Recommendation by the CDCs and WHO

The global outbreak of the novel COVID-19, which the World Health Organization has deemed a pandemic, affected the aspects of the human activities and thus countries had to act and respond to the pandemic. Following the World Health Organization's (WHO) global warning on the COVID-19, the majority of countries took urgent steps to curb the disease's dissemination. Numerous steps to halt the spread of COVID-19 have been considered in different sections of the world (Ho, Nguyen, Elias, & Le, 2021). Despite these efforts, as of 15 April 2020, more than 2 million cases were recorded globally, with 138,000 deaths registered. Worldwide, Governments announced COVID-19 response programs not only to control the spread of the virus but also to help citizens to service in the collapsing global economies. The CDC provided a chart upon which the countries can respond to covid-19 pandemic and reduce the spread.

Figure 2. Guidance from The Centers For Disease Control And Prevention (CDC)



Source: Important COVID-19 Updates (2021).

Notably, on 10 March 2020, His Majesty the Sultan of Oman issued an executive order establishing a supreme committee to enact the required steps at the appropriate scale to mitigate COVID-19 transmission and any expected public and socioeconomic consequences. The committee was led by the Minister of Interior Affairs and included representatives from a variety of government agencies, including the Ministry of Health (MoH) of Oman. The Ministry of Health's preparedness and response for COVID-19 is thus expanded, with the aim of improving health emergency response ser-

vices, increasing capacity to screen and treat COVID-19 patients, ensuring sufficient medical resources and staff, and developing life-saving medical procedures (Bandyopadhyay et. al., 2020).

Guided by The World Health Organization and the Center for Disease Control and Prevention, Oman pushed for quarantine system for the control of COVID-19 transmission. Potentially, the quarantine system could prevent disease spread that could arise before a person becomes aware they have the infection. The CDC concurs that a quarantine of fewer than 14 days strikes a compromise between reduced strain and a minor chance of virus spread.

Further, following the World Health Organization's (WHO) global warning on the COVID-19, Oman has put forward emphasis to fasten research, COVID-19 information and knowledge sharing and backing up all medical input towards the pan-demic (Bandyopadhyay et. al, 2020). World Health Organization's (WHO) through CDC has acknowledged that information sharing is key for travellers around the world. Oman being a tourist attraction site, with enough research and sharing her information on the trends and patterns of COVID-19 would be a great help to the global populations.

Further, following the World Health Organization (WHO) and the CDC on the COVID-19, Oman has made it possible through the tourism agencies to do staff in-person COVID-19 inspection; this is done adequately to protect all people from highly contagious employees and tourists accessing the buildings. In addition, the government has responded to the COVID-19 issue by ensuring and recommending all the citizens to maintain social isolation, in offices to have physical breaks / walls, and people to put on masks (Gasana & Shehab, 2020).

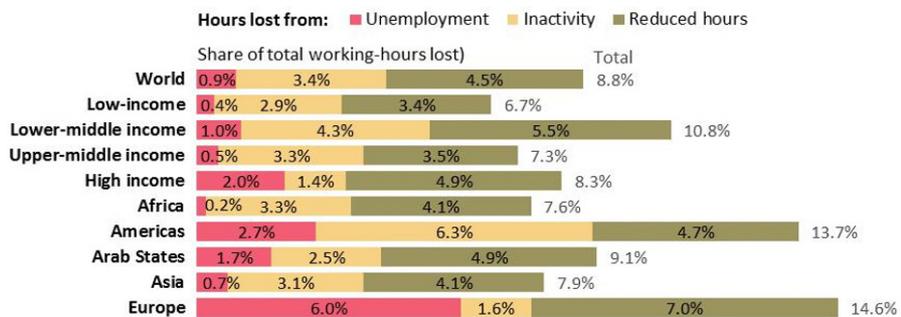
The government of Oman further through the guidance of World Health Organization (WHO) and the CDC, recommend that all people coming to their country have personal protective equipment (PPE) that can be used with the COVID-19 screener at the food outlets, restaurants, and all related avenues (Al-Hasni, 2021). However, the government of Oman through the Ministry of Health (MoH) of Oman warned that relying solely on personal

protective equipment (PPE) is a less efficient control method which could be more complex to enforce due to PPE shortages and preparation standards.

Impact of COVID-19 on Global Economy

Since COVID-19 pandemic was reported in China in December 2019, its effect has been felt everywhere around the world. This is due to the important role China (the epicenter of the COVID-19 virus and the epicenter of global manufacturing) in the global economy. According to World Economic Forum (2020), China contributes more than 60% of the global supply chain and demand; more than 60% of the goods manufactured in the entire world are manufactured in China. Additionally, of all the manufactured goods and services currently supplied to the international market, Chinese export contribute more than 40% (World Economic Forum, 2020). Therefore, anything that disrupts China's manufacturing and logistics industries is likely to affect the global economy. It is for this reason that the effects of COVID-19 pandemic quickly spread to other nations around.

Figure 3. Global Economic Effects of COVID-19



Source: Congressional Research Service (2021).

Before COVID-19 pandemic was reported, International Monetary Fund predicted that global economy would grow by approximately 3.4% in the

near term (Ozili & Arun, 2020). But as results of implementation of COVID-19 containment measures by various governments, the global economic growth rate was revised downwards. In fact, International Monetary Fund stated that the average global economic growth would be negative during and immediately after the pandemic (Ozili & Arun, 2020). World Global financial markets were amongst the worst hit by the pandemic. In fact, during this period global stock markets lost more than 6 trillion dollars, according to Ozili and Arun (2020). They further stated that in the S&P 500 firms (in the United States of America) lost more 5 trillion US dollars between 24 and 28 February 2020. As a result of this, 10 companies in the S&P 500 index lost more 1.4 trillion US dollars combined (Ozili & Arun, 2020).

Other than stock market, airline industry also suffered serious losses during the pandemic. As a result of border closures and suspension of travel, airline industry lost more than 113 billion US dollars during the pandemic (Ozili & Arun, 2020).

Other than airline industry and stock market, global chain supply has been severely affected by the pandemic. Since China is the world's biggest manufacturer, the world's biggest exporter and a significant global supply chain contributor (more than 65% of the global supply chain is controlled by China), the closure of factories and lockdowns in one the major Chinese industrial hubs (Wuhan) significantly reduced the global supply chain (Ozili & Arun, 2020).

Nationwide lockdowns implemented by nations such as Italy, France and Iran result into significant job losses, unpaid leave and job cuts resulting in economic recession in these countries (Ozili & Arun, 2020).

Effects of COVID-19 on Global Tourism Industry

Global tourism industry was never spared. and was significantly affected by COVID-19 pandemic. As a result of the pandemic, people's livelihoods, nations' economies, public service as well as opportunities in all nations

across the world were severely affected. In fact, COVID-19 pandemic brought lockdowns, prohibiting public gatherings and cancellation of international flights, cancellation of hotel bookings and other tourism related bookings (Ozili & Arun, 2020). By April 2020, cancellation of local events, flights as well as cancellation of international events resulted into more than 200 billion US dollars loss according to Ozili and Arun (2020). The tourism export revenues reduced by more than \$910 billion to a value which was less than 1.2 trillion in accordance with World Tourism Organization (2020). As a result of the COVID-19 pandemic negative impact on the tourism industry, the world GDP decreased by approximately 1.5 to 2.8% (UNWTO, 2020).

Given the importance of tourism in the world economy, anything affecting it affects the livelihood of many people around the world (UNWTO, 2020). For in-stance, tourism is considered one of top 10 employers in the world and is a source of livelihood for millions of individuals in both developing and developed nations (UNWTO, 2020). In some nations, such as the Small Island Developing States, tourism industry contributes to approximately 80% or more of the total exports (UNWTO, 2020). This means that in these nations, tourism industry is a major source of employment (UNWTO, 2020). Therefore, any disruption to tourism such as this caused by COVID-19 pandemic, may severely affect these economies (UNWTO, 2020).

Effects of COVID-19 on Oman's Tourism Industry

Just like many tourism industries around the world, Omani tourism severely suffered due to the coronavirus pandemic. With the advent of the novel coronavirus disease COVID-19 and its effects on numerous sectors of the economy, whether affecting intra- or inter-country exchange, the economies of the majority of countries have sustained significant financial and economic harm. The pandemic has caused a crisis of Oman as a result of the termination and closure of investments in different in the tourism sector. It is impossible to predict with precision how soon the economies of different countries can rebound from the containment

of the epidemic or any subsequent wave. The tourism sector is one of the most severely impacted sectors by the pandemic; it is one of the most significant sectors for countries that depend on tourism as a main economic engine or strategic development sector. For instance, Omani hotels experienced 50.1% decline in hotel occupancy rates when compared to similar period in 2019. In 2019, hotels recorded an average occupancy rate of 52.3% but in 2020 (as of end of October), the hotels recorded an average occupancy rate of 26.21% representing a 50.1% decline in hotel occupancy rate (Prabhu, 2021).

COVID-19 pandemic also significantly reduced the number of guests visiting Omani hotels. In the first 10 months of 2020, a total of 646,841 guests visited hotels which is a 53.9% decline compared to the number of guests who visited the hotels during the same period in 2019 (Prabhu, 2021). During the same period in 2019, more than 1.4 million guests visited the hotels. It is important to note that of the 646,841 guests who visited, more than 50% (337687) were Omani nationals, 164,873 were from Europe and 47,643 guests were from Asia (Prabhu, 2021).

Other than loss of revenue and occupancy rates, the industry also suffered massive job losses. With decreased revenue and lower occupancy rates, service providers in the Oman's tourism industry were not able to sustain large number of staff. As result, most employees were forced to go on unpaid leave, accept pay cuts and some lost their jobs completely. Examples of these individuals are tour guides, drivers, hotel attendants etc. In 2014, this sector offered employment to approximately 37,000 people representing 3.3% of all jobs in the country (Prabhu, 2021). It was expected that by 2024 this number will rise to at least 60,000 people directly employed by the tourism industry (Prabhu, 2021). This dream is threatened by the COVID-19 pandemic. The number of job losses experienced by the industry in 2020 is likely to make it difficult for the country to achieve this dream. The dream was geared towards shifting the country's economy from relying on oil to relying on tourism and other service sectors. It is estimated that Omani oil wells may dry up in 20 years (Prabhu, 2021).

Research (Literature) Gap

From the above discussion it is quite obvious that just like in many countries, Oman's tourism industry has suffered and continues to suffer as a result of the current COVID-19 pandemic. The industry has registered a number of adverse coronavirus associated effects. By suspending tourist visas, closing of the international borders and lock downs, the tourism industry started to register significant decline in occupancy rates (as already discussed), revenue associated with tourism begun to decline and many jobs were on the line if not already lost. With the pandemic persisting for several months, reduction of revenue continued to such a level that the entire industry was experiencing serious economic losses. What makes matters worse is that just like many countries around the world, Oman had no immediate measures and strategies of dealing with the effects of such a pandemic. As such, the country needs strategies of bringing its ailing tourism industry back on track. This is where the research comes in. The research aims at identifying and prioritizing ways through which Oman can put its tourism industry back on track during and after the pandemic. With new strains being identified in many countries it is clear that the end of the pandemic is still uncertain and Oman's tourism industry cannot continue to suffer. As such, the study aims at answering the research question below.

What are the ways in which Oman can improve the tourism sector as the industry focuses on successful recovery after the pandemic?

By answering this research question and with the current effects of COVID-19 pandemic on Oman's tourism industry, the study intends to help the authorities in the tourism industry in establishing measures that can enhance the tourism industry's positive outcomes both during and after the pandemic. The identified measures may help the country deal with future pandemics especially on effects associated with tourism industry.

The tourism industry has registered a 60–80% decline, and there is an evident need for potential recovery measures. Just like other countries,

Oman has not had immediate measures to mitigate the adverse effects of the pandemic.

Case Studies

Case Study: the Netherland's Case

Even though Oman tourism industry suffered as result of coronavirus pandemic, there are countries whose sectors (including tourism industry) were not affected as much. One such nation is the Netherlands. Most of the impacts of the coronavirus were as a result of implementation of COVID-19 pandemic control and prevention measures. While Oman cancelled tourist visas and closed its international airport, the Netherlands implemented what they called Intelligent Lockdown (de Haas, Faber, & Hamersma, 2020). Visiting the elderly and events comprising of over 100 people were also not allowed (Antonides & van Leeuwen, 2020). However, public transport, businesses and shops were allowed provided health protocols and social distancing was observed and face masks were obligatory at all times in public space. International borders were also never closed. Visitors were allowed provided they showed negative coronavirus test and were not exhibiting the symptoms associated with the disease. Only individuals who came from nations that the Netherlands considered red spots for the coronavirus were needed to self-quarantine for a period of 14 days (Antonides & van Leeuwen, 2020).

Netherlands Intervention Towards COVID-19 Pandemic

Right from the beginning the Netherlands government invested a lot into dealing with the pandemic. By the end of March 2020, the government implemented an initiative geared towards saving the country's jobs. This

included providing compensation of up to 90% of wages for companies that were worst hit by the virus (including organizations in the country's tourism sector). This initiative prevented huge job losses in the Netherlands which Omani's tourism industry is suffering from. Additionally, self-employed individuals were offered an allowance known as social benefit allowance for a period of three months. The Netherlands government also offered organizations that were worst hit by the pandemic a 4,000 euros subsid and start-ups were allowed to borrow up to maximum of 2 million euros to help them avert any coronavirus effects (Antonides & van Leeuwen, 2020). As result of these mitigation measures, the rate of unemployment and revenue in the Netherlands' tourism were minimal. For instance, 2020, the Netherlands's unemployment rate went up only by 1.7%.

Research Methodology and Data

This research chapter gives the methods and procedures that were followed while achieving the aims and objectives of the study. The chapter discusses the research method employed, research design adopted, research strategy, data collection and analysis.

Research Design

The research design adopted in this study is known as descriptive cross-sectional research design. According to National EMSC Data Analysis Resource Center (2019), a descriptive cross-sectional research involves studying effects a particular condition or disease (such as a pandemic) on certain aspects such as a nation's sectors (for instance construction sector, health sector, tourism sector, education sectors and others) over a period of time. In the current study, the condition being studied is the coronavirus pandemic which has affected many parts of the world and its effect on the Oman's tourism industry. This research design is generally effective and cost-effective in

understanding the characteristics of a pandemic with respect of how it affects industries (National EMSC Data Analysis Resource Center, 2019).

Research Method

Two types of research methods can be used to achieve objectives of a study: quantitative study and qualitative study. Quantitative research method mainly employed were the research data of numerical type. Generally, the research method involves developing research method hypotheses then validating or rejecting the hypotheses based on the results of the numeric data analysis. In qualitative research method, opinions, and perceptions of people about a research topic are collected and analysed. Such types of data are non-numeric and, in most cases, do not involve collection of numeric data. The research method aims at identifying a common theme from the varied opinions and perspectives of participants. The research method can be applied in situations where there is a small amount of data, i.e., opinions and perspectives collected from the participants and accurate conclusions made regarding the research topic. It is important to note that in quantitative studies data is mainly collected through questionnaires. In qualitative research, data is often collected via interviews. However, in certain cases questionnaires can be used to collect the qualitative data. Here, a questionnaire with questions (often open ended) that were asked during interviews are sent to the participant via post office, email address or via any method they are likely to be comfortable with.

Research Method

The study adopted a qualitative approach and utilized purposive sampling to identify experts in the tourism industry who have the potential to highlight measures that can help the Oman tourism industry to embark on a successful recovery. The researcher conducted interviews with the identified partici-

pants in order to seek their opinions and perspectives regarding the rationale of lifting travel restrictions and the ways of increasing traveller confidence amidst the uncertainties and fears associated with COVID-19 in Oman. During the interviews, the researcher also explored the perspectives and opinions of experts on how to enhance domestic tourism to increase income in the Oman's tourism industry, which has since been declining. The interviews also focused on highlighting experts' views on specific travel destinations and appropriate recovery plans. Qualitative approach was also employed to identify the economic, social, and geopolitical impacts of the Corona pandemic on the country's tourism industry. Specifically, the study also examined the environmental effects of COVID-19 that have led to the observed decline.

By employing interpretivist framework, the researcher analysed the data collected from the interviews and identified the predominant themes on how Oman can enhance the recovery of its tourism industry. From these findings, the author will conclude how to improve the Oman tourism sector and restore functionality in the industry. The study will also provide recommendations on the best approaches to improving the Oman tourism sector.

In order to avoid risk of contracting and spreading the disease (COVID-19), interviews were conducted virtually. That is, they were conducted via online and digital platforms such as video calls and teleconferencing using platforms such as Zoom, Google meetings and Microsoft Team Views. Interviews were also conducted via telephone calls. Questionnaires were sent via emails, social media platforms such as WhatsApp, Telegram and Facebook.

Research Strategy

Several types of research strategies can be employed to achieve the objectives a study. They are as follows: case study, survey, interviews, grounded research, action research and experimental research (Naim, 2018). Archival research strategy mainly involves collection and analysis of secondary data. Such data may be obtained from various databases, books, reports,

repositories, journals and from conference papers (Naim, 2018). Some of the online databases where archived data can be obtained include: World Bank, Compustat, OECD (Organization for Economic Co-operation and Development) and Execucomp. According to Naim (2018), survey research mainly involves collection of quantitative primary data through questionnaires. Interviews mainly involve collection qualitative primary data through one-on-one encounter or via questionnaires. Such data involve collection of opinions and perception of the participants regarding a research topic (Naim, 2018). In experimental research the performance of two groups of experiment subjects is compared. One group is known as the experimental group, while the other is known as control group. The experimental group is subjected to experimental conditions, while control group is not subjected to conditions. The performance of the experiments on the groups is based on experimental factors and conditions they are subjected depending on the aims and objectives of the experimental study. Lastly, case study involves examining a problem in real life context. An example of such a study is this study, which examined COVID-19 pandemic in Oman with intention of identifying and prioritizing ways to improve Oman's tourism sector during Corona period.

Research Strategy

This study employed three research strategies, namely: interviews, case study and archival strategies. The research is a case study itself. It entails examining a problem affecting a society (tourism industry) and this problem is coronavirus pandemic. The real-life context where the problem is examined is Oman. The research also involves identifying and prioritizing ways to improve Oman's tourism sector during Corona period. The research also involves interviews. Interviews were conducted with the aim of identifying the common theme regarding the opinions and perceptions of specialists from Oman's tourism sector on the fiscal, social, and geopolitical impacts of the Corona pandemic

on the country's tourism industry; the rationale for lifting border controls and strategies for rising travellers trust in the face of COVID-19-related uncertainty and scares in Oman; and strategies for enhancing domestic tourism in order to increase revenue in the destination for tourism.

The research also involved archival research. It is, however, important to note that most research data were not collected from archived data sources. The archival research was rather employed in the literature review section where some impacts of the COVID-19 pandemic on the Oman's tourism sector were identified. This information was obtained from the nation's leading newspapers and other online sources. Two techniques were used in retrieving the most relevant articles during the archival research strategy: snowball technique and keyword technique. In keyword method, several keywords were searched in search engines of the various databases. Some of the keywords employed were: impacts of coronavirus on Omani tourism industry; tourism industry recovery from COVID-19 pandemic; coronavirus in Oman. Snowball technique was mainly used to retrieve relevant articles from already downloaded articles. It involved obtaining the relevant articles from the bibliography and intext citations of the already downloaded articles.

Data Collection and Analysis

The research involved collection of primary data using interviews where opinions and perceptions of the Omani tourism industry specialists were consulted on the economic, social, and geopolitical impacts of the Corona pandemic on the country's tourism industry; the rationale for lifting travel restrictions and strategies for increasing travellers trust in the face of COVID-19-related inconsistencies and concerns in Oman; and strategies for enhancing domestic tourism in order to boost revenue in the country's tour industry.

Results and Discussion

Impacts of Corona Pandemic on Oman's Tourism Industry

From interviews, it was found that the most of participants identified the following factors as the most significant impacts of the coronavirus pandemic on Omani tourism industry.

- 1) Reduction of hotel occupancy rate.
- 2) Reduction of hotel bookings.
- 3) Reduction of revenues.
- 4) Loss of employment.
- 5) Unpaid leave.
- 6) Pay cuts.

Reduction in Hotel Occupancy Rate and Bookings and Consequences

One of the major impacts of the coronavirus pandemic on Oman's tourism industry is reduction of hotel bookings (visitors) and occupancy rates. The statement of the one of participants has been given below:

"Our businesses suffered. We do not know how long it will take us to recover from the effects of this monster (coronavirus). Before the virus, we used to register 60 to 70% occupancy rates. Some hotels were full at certain times of the year. But in 2020 and when the virus hit Oman, what we saw was not good. Some of us did not register any booking at time when they should register 50 to 60% bookings. The best bookings were around 20 to 30%. We had to send some of our employees' home (terminate their contracts) and some special those offered essential services were forced to take pay cuts. We had no money to pay our employees."

The above statement paints a grim picture on the state of tourism industry during the pandemic. Hotel bookings declined and occupancy rates reduced. Consequently, jobs were lost, and employees were forced to take pay cuts. The loss of hotel occupancy rate in the Omani tourism industry has also been reported elsewhere and thus validating the results of this research. According to Prabhu, (2021) and as already been discussed, by end of October 2020, Omani hotels experienced 50.1% decline in hotel occupancy rates when compared to a similar period in 2019. In 2019, hotels recorded an average occupancy rate of 52.3% but in 2020, the hotels recorded an average occupancy rate of 26.21% representing a 50.1% decline in hotel occupancy rate.

Reduction in Revenue

Another major effect of coronavirus on Omani tourism industry is reduction of revenue. According to participants, all their organizations recorded huge financial losses as a result of COVID-19 pandemic translating to huge losses in the entire industry.

"The reducing in bookings and occupancy rates seriously affected our earnings and profitability. Most of the companies in the industry are noting losses. I think none is making profit currently or if they are, then they must be very few. Our company's earnings dropped by more than 60% by November 2020 and we continue to note losses. The situation is likely to continue as there are very few willing to travel despite opening of the borders. People still fear because the virus is still here with us. To save this industry urgent actions are needed to be taken by both the government and industry players."

Prabhu (2021) published similar results, thus authenticating the observations of this review. Prabhu (2021) had predicted that the sector would have lost more than 1.3 billion US dollars by September 2020 (0.5 Billion Omani Rials). As per Prabhu (2021), Omani hoteliers, especially those in the three to five-star range, saw a revenue decline of more than 60.2% in 2020 compared to 2019. For example, in October 2019, such hotels received a total of

177.72 million Omani Rials, but just 70.70 million Omani Rials in October 2020, a decrease of 60.2% in turnover (Prabhu, 2021). The hotel industry's revenue loss can be attributed to a decline in hotel occupancy as a consequence of booking cancellations and a shortage of new bookings.

Loss of Employment

One of the major effects of coronavirus pandemic on Oman's economy, according to the interviewees, is the loss of employment. All interviewees mentioned employment loss as one of the impacts of novel coronavirus on the country's tourism industry. One of the interviewees (who is a senior in the tourism industry) made the following statement regarding the loss of employment.

"During coronavirus most companies in this industry suffered. 90% of the companies could not sustain all their employees. In fact, for most organizations, only a small percentage of the employees were working. Everything went to a halt. We could not afford to pay our employees. Literally, there was no money. Some of us were forced lay off their staff either permanently or temporarily."

The above statement paints the picture of what things were like during the pandemic. Many jobs were lost since occupancy rates significantly dropped. This means companies in the tourism industry did not have enough money to sustain their employees and as a result terminated contracts of some while others were sent on an unpaid leave.

The loss of jobs was experienced not only in Oman. Many researchers reported job losses experienced as a result of the coronavirus pandemic. Newsome (2020) showed that more than 75 million people lost their job and sources of livelihoods in the tourism and hospitality industry as a result of coronavirus. The main reason for this is government interventions for protecting their nations against the spread of COVID-19. Such actions included cancellation of tourist visas as in the case of Oman, closing of international borders, and partial and complete lockdowns.

Recovery and Mitigation Measures

The interviewees identified a number of recovery and mitigation measures that can help the Omani tourism industry to be back on track regardless of ongoing COVID-19 pandemic. These are explained below.

Measures to Taken by the Omani Government

- 1) **Setting aside COVID-19 recovery kitty.** One of the recommendations by those interviewed is that government sets aside a recovery kitty. The intension of the recovery kitty is to help business which are worst affected by the pandemic and are operating in the tourism industry recover from the effects of the coronavirus pandemic within the shortest period possible. The kitty should also be used as stimulus package geared towards helping business that operate in the country's tourism industry take care of losses experienced or they currently experience as a result of COVID-19 pandemic. Loans with low interest and long repayment periods should also be covered in this package. Such money can help businesses recover from the effects of the coronavirus pandemic. Stimulus package may also include offering tax vacations and reliefs especially during the period of the COVID-19 pandemic.
- 2) **Increasing the frequency of marketing the country** as most the preferred and the best tourist destination in the world in both local and international media. The recovery kitty (discussed above), according to participants, can also be used in organizing campaigns and marketing in the country's mainstream media to encourage domestic tourism and world's mainstream media to restore the country's confidence and emphasizing the maintenance of the highest standards of hygiene to prevent the spread of COVID-19 pandemic.
- 3) **Public-private partnerships:** The recovery of the tourism industry can be accelerated by the partnerships between private and public or-

ganizations operating in the Oman's tourism industry. For example, hotel and accommodation organizations should collaborate with the Omani ministry of health and local government to set up COVID-19 testing and management facilities. Doing this not only protects the visitors from COVID-19 but also gives the would-be visitors a sense of security and confidence.

4) **Encouraging domestic tourism** by offering discounts and incentives for the locals to enjoy the country's tourism facilities. This will help companies keep operating even with the absence of the international tourists.

Measures by Tourism Industry Players

Table 1. Measures by tourism industry players taken by Oman to curb spread of Covid-19

	Measure taken
1	Offering discounted rates and fees: The organizations and businesses operating in the country's tourism industry should consider offering discounts during the pandemic. Such discounts may include booking rates, parking fees and others. Such discounts will not only encourage local tourists but also international tourists and thus help in bridging the current gap.
2	Additionally, businesses operating in the Oman's tourism industry should consider adopting a flexible booking policy. The policy should be such that customers are allowed to cancel or amend their bookings without additional charges nor conditions at any time. This ensures a booked space is kept and not lost. This can also serve as a marketing strategy as customers are likely to inform their friends of the offer.
3	The organizations should also consider cancelling or waiving all the fees and fines that were charged on customers who cancelled or amended their bookings as result of COVID-19 pandemic. Such customers should also be allowed to make a new booking with current rates without giving them conditions at any time provided it is within the laws and regulations of Oman.

4	<p>Businesses and organizations operating in the Omani tourism industry should also consider offering attractive discounts to clients who want to re-book their previously cancelled bookings without conditions. Such offers should also be extended to customers who wish to re-book after normalization of everything (after the coronavirus pandemic). Attractive re-booking offering will help organizations not lose their loyal customers and as a result, maintain their market or even expand it.</p>
5	<p>Organizations and businesses operating in the country's tourism sector should also consider diversifying their operations. For example, such organizations should consider offering facilities such as meeting and conference facilities among other services. With a wide range of services, they can always find a way to survive one of their products fails.</p>

Source: own elaboration.

Research Limitation

This is qualitative research where data used were collected using interviews which were carried out with carefully selected participants. But since the research used interviews to collect data, it involved mainly collection of the opinions and perceptions of the experts from Oman's tourism industry. As result, the accuracy of the results is based on the honesty and truthfulness of the participants. Another major limitation associated with the study is that interviews were never carried out using face to face contact and as result, impromptu interviews were not possible and only results from the those who agreed to participate were included in the study.

Conclusion

The aim of this research was to achieve the following objectives: to identify the economic, social, and geopolitical impacts of the Corona pandemic on the country's tourism industry; to identify ways to enhance domestic tourism so as to increase the income in the Oman's tourism industry which has been declining; to identify specific travel destinations and associated recovery plans; to suggest recommendations on the best approaches to improving

Oman's tourism sector. The main impacts of coronavirus on Omani tourism industry include the loss of revenue and the reduction in hotel occupancy rate. These effects resulted in massive job losses, unpaid leave and pay cuts amongst employees in the country's tourism industry. The measures to be taken to enhance recovery of the tourism industry were categorized into two: government measures and business measures. The government measures include: setting aside COVID-19 recovery kitty; increasing the frequency of marketing the country as the preferred and the best tourist destination in the world in both local and international media; public-private partnerships; encouraging domestic tourism by offering discounts and incentives for the locals to enjoy the country's tourism facilities.

Private measures include: offering discounted rates and fees; adopting a flexible booking policy; cancelling or waiving all the fees and fines that were charged on customers who cancelled or amended their bookings as result of COVID-19 pandemic; offering attractive discounts to clients who want to re-book their previously cancelled bookings without conditions; diversification of operations.

One of the countries that successfully managed its coronavirus and, as a result, where the impact on tourism industry was minimal is Netherlands. The Omani authorities in the tourism sector should consider visiting Netherlands for benchmarking.

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eISSN 2543-831X



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