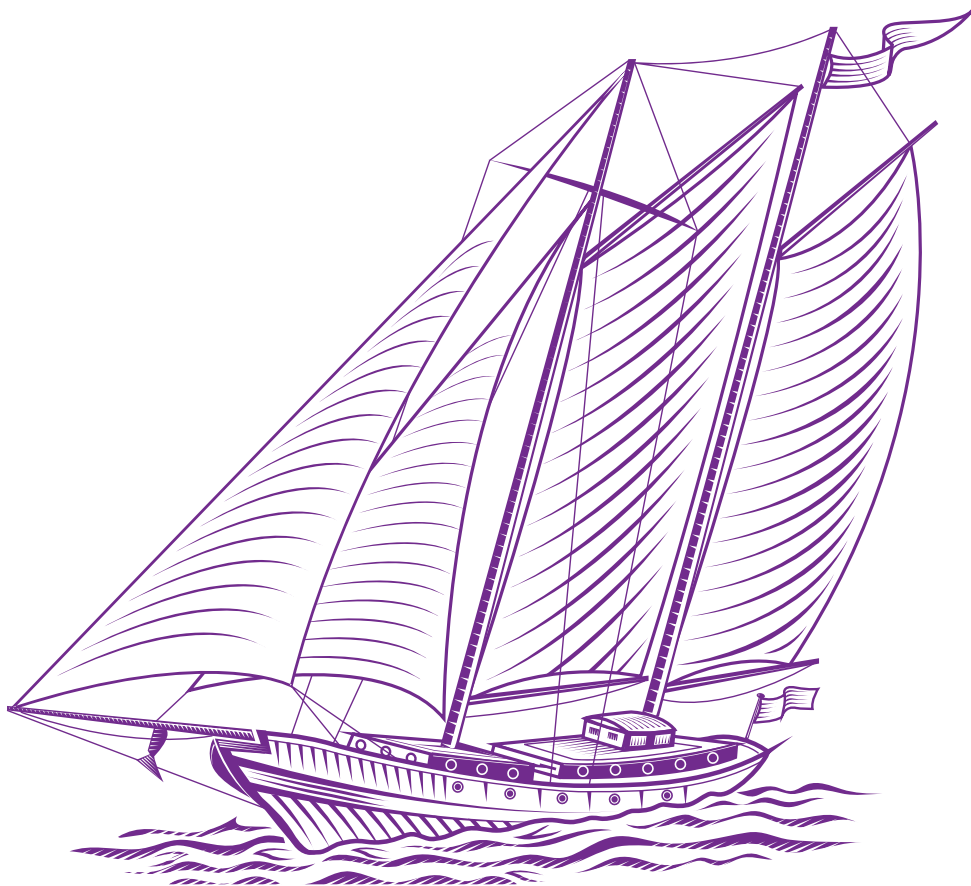




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POST PANDEMIC INSIGHTS ON ADVANTAGES AND CHALLENGES OF VIRTUAL WORK

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ELISABETA BUTOI¹, VLADA ANDRONACHE²

ABSTRACT. The virtual work has been implemented in some areas more than others, and particularly in information and communication technology field several years before the pandemic. But, due to the lockdowns while the Covid-19 pandemic, imposed remote work was a new experience for many. This research examines, by the use of a survey, the benefits and the challenges of telework. The respondents confirmed those elements to specific degrees answering to the closed questions and mentioned their perspectives in the open questions. The study focuses on items concerning employees and employer while telecommuting, highlighting their work performance in terms of leading, communicating and accomplishing the tasks. Productivity, work-life balance, well-being, virtual leadership and communication, and the preference for future teleworking are some of the aspects detailed. The findings show correlations between those elements, the preference for continue virtual working is directly linked to work-life balance influenced by remote work productivity, time management efficiency, concentration capacity, and depending on safety and protection measures in the telework system.

Keywords: telework, virtual leadership, communication, work-life balance, well-being, WHO-5, working time, flexibility, feedback, Covid-19 pandemic

JEL Classification: M10, M54, M15

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Introduction and literature review

Virtual work is based on geographic dispersion of workers independent of company office and dependent on Information and Communications Technology (ICT) (Messenger & Gschwind, 2016). The advance of ICT led to different types of work arrangements, having employees performing their tasks away from office (Raghuram, Hill, Gibbs, & Maruping, 2019) and independent of a specific working place that is of teleworker choice (Hill, Ferris, & Mårtinson, 2003).

The term teleworking is specific to European legislation in the field of telework, compared to the notion of telecommuting which is mostly found in the United States of America. The institution of telework in Romanian labor legislation was adopted by Law no. 81/2018 on the regulation of telework activity and is in force just since 5th April 2018. This law develops the notions of telework and tele-employee and provides certain rights and obligations for employees in Romania who choose or are forced to work from home (Chistruga-Sînchevici, 2021). Telework is the activity through which the work process is carried out from home by means of ICT, namely laptops, computers, tablets, and smartphones (International Labour Office, 2020). The term was first mentioned by Jack M. Nilles, a NASA engineer, in 1973. At that time there were already some workers at IBM working from home to test the effectiveness of telecommuting. From the perspective of Jack M. Nilles, the term telework addresses a fundamental question, namely: "If a person's work on any given day consists of interacting with a computer, communicating with other people using some form of telecommunications technology, simply reading or thinking, or all of these, what difference does it make where the person is when the work is done?" (Nilles, 1997, p. 7). However, several studies show there is some importance as it comes with benefits and challenges. Telework represents a medium and long-term strategic tool that will contribute to the realization of activities on time, increasing efficiency and productivity (Nilles, 1997).

The measures imposed to prevent the spread of Covid-19 involved social distancing and thus the temporary closure of many institutions and companies. It is certain that starting from 2020, most of the population experience a different way of working, learning, and teaching. Even if before the emergence of the Covid-19 pandemic there were already people working remote, today this process is on the rise in most companies and in most fields. The expansion of telecommuting will greatly depend on the tactics and opportunities implemented in each company to support this major change, for both employees and employers. However, in some areas, switching to telework is practically impossible (Phillips, 2020).

Since the Covid-19 virus is still present, many of the employees work remotely daily or opt for a hybrid work system. Several studies of virtual work, practiced mainly in IT companies for some time before pandemic, identified benefits and disadvantages of telework system. Some advantages of the telecommuting for employees are reducing the time spent traveling to the office (Tremblay & Thomsin, 2012), and respectively reducing the risk of infection with Covid-19, reducing transport costs, working at oneself rhythm, reducing stress (Antonacopoulou & Georgiadou, 2020), and having more flexibility (Casey & Grzywacz, 2008) in terms of time management (Sostero, Milasi, Hurley, Fernandez-Macias, & Bisello, 2020), and better work-life balance (Hill, Ferris, & Martinson, 2003). As for employers some benefits are increased employees' productivity (Nangoy, Mursitama, Setiadi, & Pradipto, 2020), lower company rental costs and the company's ability to recruit and collaborate with qualified personnel from all geographic areas (Niță, 2020).

As any system, telework involves some challenges for both sides. For employees could be challenging moments of energy interaction, losing internet connection, integration of various technological solutions required for support and cyber security (Phillips, 2020). For some the lack of socialization could degenerate in emotional problems (Anderson, Kaplan, & Vega, 2015) and lead to mental well-being issues (Radulescu, et al., 2021). The tendency to work over schedule or in the weekends is a factor increasing unpleasant feelings and reducing self-happiness (Song & Gao, 2019). For employers, the disadvantages would be providing employees with the necessary equipment to carry out telework, providing technical assistance in the event of equipment or telecommunications link malfunctions, adapted communication between company members, less

control over employees (Wang, Liu, Qian, & Parker, 2021), clarifying some legal issues related to taxation, health insurance, work protection, etc. (Phillips, 2020).

As the way of working changed, it is important for both employees and employers that the management and leadership process is adapted to telecommuting. Knowledge and use of online work platforms (such as Microsoft Teams, Zoom, etc.) is required for effective communication between members of organizations. Organizational values and culture, trust and respect must be developed to strengthen employee-employer relationships (Contreras, Baykal, & Abid, 2020). Respecting working hours and deadlines is essential. Timely feedback will prevent various problems and discrepancies in the company. Another important factor to support telecommuting is the support given to employees by the company. Because both mental and physical changes could occur, it is necessary to know and deal with them, like lack of motivation or concentration, mental health issues (Amichai-Hamburger, 2009), blurred work-life balance as studies show employees tend to work more hours remotely (Burke & El-Kot, 2009). Thus, both the employer and the employee are responsible for their prevention. Online meetings should have a purpose and a well-defined schedule. Keeping effective documentation and notes is also essential. Communication between organization members should be encouraged through the use of video cameras and microphones during online meetings. Communication must be concise, accurate and clear, but at the same time adequately convey the message, complex in some cases (Phillips, 2020).

As a result of the development of technology and respectively digitalization and globalization, new opportunities have arisen to create and manage virtual teams of members with different cultural values and norms, and from different time zones (Raghuram, Hill, Gibbs, & Maruping, 2019). Also, the Covid-19 pandemic has forced a large part of the population to work remotely and respectively to move from classic teamwork, carried out in the office, to collaboration within virtual teams. The term virtual team was mentioned as early as the 1960s in the United States of America. The entering to 21st century was already rethinking the classical team and hierarchy in an organization, having organization compound of virtual teams and networks (Lipnack & Stamps, 1999). A virtual team involves members being geographically and spatially dispersed

and coordinating their activity through electronic information and communication technology (email, video conferences, telephone, etc.). In order to increase the effectiveness of companies and employees in the remote work system, in parallel with the term virtual team, the concept of virtual leadership appeared and developed. Effective communication among virtual team members (Liu, Ready, Wang, McCarthy, & Kim, 2018) in multinational companies is essential. Also, virtual cooperation between members is one of the most important processes that contribute to the success of virtual teams. They overcome geographical, temporal, and organizational barriers and allow large companies to be part of strategic projects on a global level. Among the advantages of these teams are the diversity of the staff, the flexible organizational structure, and the allocation of resources for innovation (Batırlık, Gencer, & Akkucuk, 2022).

The role of the leader in the coordination of the virtual team is a crucial one. The virtual communication is essential for leaders, and this calls for adoption, acceptance, and willingness to use technology of good quality for achieving the organization's goals. This requires for responsibility, flexibility, continual learning, analytical and technical skills (Liu, Ready, Wang, McCarthy, & Kim, 2018). The specialized literature distinguishes two types of behavior of a leader: the behavior of the task-oriented leader and the second one-oriented towards relationships. In the leadership process, task orientation involves establishing the roles and responsibilities of everyone, both the leader and the team members. Also, the leader is the one who monitors, directs, and contributes to the accomplishment of the team's tasks. The second, behavioral leader type is the relationship-oriented leader, it involves creating good relationships with team members where the emphasis is on the well-being between the two parties. This type of leadership also involves the constant motivation of team members, providing feedback and encouraging members to offer it to the others (Batırlık, Gencer, & Akkucuk, 2022). Another classification of leadership styles focuses on the results of style on virtual teams' effectiveness. The one affecting the relationships is considered the transformational style, while the transactional style is influencing the tasks achievement, and Laissez-Faire style enhancing innovativeness (Gross, 2018). Maintaining a high level of motivation between virtual team members through interactions, discussions and provided feedback is critical for employees and organizations (Penarroja, Orengo, & Zornoza, 2017).

The Covid-19 pandemic has influenced the lives of every employed person. Imposing the telework system during the pandemic was a challenge for both employees and employers. Even the teleworking experience was new for many employees, studies show they prefer to remain working from home post pandemic (Radulescu, et al., 2021). Several studies indicate this preference for the majority of respondents even they started practicing remote working since the Covid-19 pandemic (Sostero, Milasi, Hurley, Fernandez-Macias, & Bisello, 2020). Consequently, this research focuses on the telework system that has meant a new way of working for many employees since 2020. Thus, analyzing the opportunities and challenges of virtual work is essential for those involved and future virtual leadership of organizations.

Research methodology and results

The research was carried out by collecting primary data, using the survey in April 2022. The study included the following stages: development of analysis tools, questionnaires, administration of questionnaires, processing of data obtained from the survey, analysis, and interpretation of data (Şandor, 2013). The survey contains mainly structured questions and a few unstructured (open-ended) questions. There were used identification questions and mainly Likert scale questions (Vagias, 2006).

Descriptive analysis

The members of an information technology (IT) company were questioned to study the topic of telework from several perspectives. The studied company is present in Romania, Republic of Moldova as well as in the Great Britain, thus the survey was in Romanian and English language. There were 114 employees responded to the survey, of which 81 (71%) practiced telework for the first time during the Covid-19 pandemic, 28 (25%) before the Covid-19 pandemic, and 5 (4%) of the employees have never worked remotely. The research carried out had as a target group of respondents those who practiced telework before and those who started working in this way due to the lockdowns during the Covid-19 pandemic. Therefore, the study sample is of 109 teleworking

respondents, from three different countries (64 from Republic of Moldova, 30 from Romania and 15 from the Great Britain), of which more than half (69%) are men, and 37% are women. In terms of age, more than half (59%) of respondents are between 26 and 35 years old. Another 24% of them are between 18 and 25 years old, and 17% - between 36 and 45 years old. Only 1 respondent (1%) is over 45 years old. The majority, approximately 73% of the respondents, do not coordinate a team, and the other 27% are in management positions.

Advantages and challenges of virtual work

- The advantages of teleworking, like the productivity of the employees, the level of motivation, the level of concentration, work-life balance, the flow of documents, but also other advantages of teleworking identified by the company's 109 members while working from home were analyzed.

The first aspect analyzed was the productivity of the employees, more precisely if and to what extent they were more productive during the period in which they worked from home. Thus, most (43%) of the 109 respondents believe that they were often more productive in fulfilling their job duties, and another 27% were always more productive. Comparatively, 21% of employees say they were more productive sometimes, 6% - rarely, and 3% - never.

The shift to telecommuting was accelerated by the Covid-19 pandemic. In this context, the presence of safety measures introduced within the company were also studied. In the same vein, 35% of employees believe that they often benefited from increased safety and protection measures, and another 30% - always. On the other hand, 18% of respondents have experienced safety measures and increased protection sometimes, 10% - rarely, and 6% believe that never happened.

The third factor analyzed in the context of the advantages of telecommuting was the increased level of concentration of employees as a result of not being interrupted by their superior/colleagues, compared to working in the office. It was found that 29% of respondents always had a higher level of concentration because they were no longer interrupted by colleagues/superiors, another 28% - often, and 27% -

sometimes. On the other hand, some employees were influenced insignificantly or not at all in this context, respectively 11% consider that they rarely had an increased level of concentration, and another 6% - never.

Digitization of documents is essential in the online system and in telework respectively. Thus, it was found that the majority of employees (37%) are of the opinion that sometimes the flow of documents in the decision-making process has been made more efficient, another 28% believe that this fact happened often, and only 18% believe that document management has always been more efficient. Comparatively, some employees believe that rarely (9%) the flow of documents in the decision-making process has been more effective, and another 7% believe that this has never happened.

In the context of the pandemic situation, the level of motivation among employees was also evaluated. Thus, 32% of them state that they often had an increased level of motivation in terms of safety and protection because the company met their needs, another 27% - always, and 21% - sometimes. On the other hand, 12% rarely had a high level of motivation from the point of view of their safety and protection, and 8% revealed that they never felt this fact.

Also, the motivation level of the employees was studied from the perspective of time management. Accordingly, a large percentage of respondents (41%) believe that they always had an increased level of motivation due to the possibility of managing their time more efficiently, another 32% believe that they often had a high level of motivation. Another 18% state that only sometimes they felt more motivated due to the possibility to manage their time more efficiently, and a smaller percentage, 4% - rarely and never (5%) felt more motivated in this sense.

- The open question concerning benefits of teleworking revealed some insides from company members. The main advantages of telecommuting identified by respondents were saving time to get to the office and saving money on food during the day, which helped reduce costs; a better work-life balance. They mentioned the benefit of having more free time to develop personally in certain areas. Employees also identified benefits of remote work such as: the possibility to relax or sleep during the break (at lunch) and easier access to food; less stress about working hours; the opportunity to spend more time personally and with family; the possibility to supervise what is happening at home, but also to take care of the

children; flexibility in terms of time due to the fact that allocating travel time to work (home-office commute) was no longer necessary.

- In addition to the benefits that have been identified following the process of "migration" to teleworking, remote work has also brought with it numerous challenges.

More than half of the respondents (34% - to a very small extent, 23% - to a small extent) are of the opinion that maintaining a structured work schedule was not a difficulty for them. Comparatively, for 15% of the employees maintaining a structured work schedule was to a large extent a challenge, and for 5% of them to a very large extent. 24% of the respondents consider that only to some extent they encountered difficulties in this regard.

Most employees (59% - to a very small extent, 22% - to a small extent) did not consider the lack of information necessary to perform their work duties a difficulty. On the other hand, 14% of respondents state that to some extent they did not have enough information in this regard. Another 6% are of the opinion that the lack of information necessary to perform their duties was to a large extent a difficulty of the telework system.

The lack of adequate workspace was an impediment for some respondents: 2% - to a very large extent, 7% - to a large extent. Another 20% consider that the lack of workspace was somewhat of a problem. Comparatively, most of the employees did not really encounter difficulties in this chapter (57% - to a very small extent, 20% - to a small extent).

Another aspect studied was the one related to digitization in the context of telework - the electronic signature. In this context, most of the respondents did not identify any problems (65% - to a very small extent, 17% - to a small extent). On the other hand, the need to sign electronically was somewhat of a challenge for 11% of employees, 6% encountered difficulties in this chapter to a large extent, and only 2% - to a very large extent.

The need to fulfill family/social responsibilities at the same time, for example taking care of other people, represented to a great extent an impediment for 4% of the respondents. Another 9% had a great deal of difficulty in this chapter, and 20% - to some extent. On the other hand, many of the respondents did not consider the need to fulfill other

responsibilities in parallel as a significant problem (42% - to a very small extent, 25% - to a small extent).

The majority (72% - to a very small extent, 17% - to a small extent) did not encounter any difficulties in terms of delays in the performance of work tasks. Comparatively, 7% of respondents faced this problem to some extent, and another 3% - to a great extent.

Another aspect analyzed was the part of collaboration with team members. The employees claim that 38% of them had very little difficulties in this chapter, and another 28% - to a small extent. On the other hand, 21% of respondents encountered difficulties collaborating with other team members to some extent. 11% of the employees had to a large extent collaboration problems within the team, and 3% - to a very large extent.

On the emotional level, the most important disadvantage felt by the company's employees was the lack of office meetings. Thus, 16% of the respondents affirm that to a great extent they felt the lack of meetings at the office, another 24% - to a great extent. Also, 24% of employees reveal that they felt this fact only to some extent. Comparatively, 16% of employees were influenced by the lack of office meetings only to a small extent, and 21% even to a very small extent.

The survey included the World Health Organisation's Mental Well-being Index (WHO-5) composed of five questions (Eurofound, 2021). The WHO-5 index is a short questionnaire that refers to well-being in terms of mental health in the last 2 weeks, consisting of 5 statements with 6 response options. They show adequate validity, the scale being used as a screening tool for depression, but also as a measure in clinical trials (Topp, Østergaard, Søndergaard, & Bech, 2015). The well-being of employees was directly or indirectly influenced by the transition to telework. Thus, it was desired to study this aspect among the company's employees. In this context, most of the respondents (33%) felt *happy* and in a good mood less than half of the time, and 30% - part of the time. Only 2% had this condition all the time. Comparatively, 14% of respondents felt happy and in a good mood most of the time, and 9% - more than half of the time. On the other hand, 12% of the company's employees did not feel cheerful and in a good mood at any time. In terms of calmness, 39% of employees felt *calm and relaxed* only part of the time, 10% - more than half of the time, and 2% - all the time. Another 15% of respondents felt this condition more all the time, and 23% - less than half the time. 12%

of them did not feel calm and relaxed at any time while teleworking. On the other hand, only 1% of the respondents felt *active and energetic* all the time, another 18% all the time, and 27% - more than half the time. Comparatively, 13% of the company's employees felt active and energetic less than half of the time, 29% - only part of the time, and 12% did not have this state at any time. More than a quarter (28%) of those surveyed say they *wake up like new and rested* part of the time, 10% - none of the time and 22% - less than half the time. During the telework period, 15% of the company's employees reveal that they wake up like new and rested more than half of the time, 21% of the respondents - most of the time. Comparatively, 5% believe they wake up rested all the time. Only 2% of the company's employees state that their *daily life was full of things of interest* for them most of the time, 17% - all the time, and 13% - more than half the time. On the other hand, 23% of respondents claim that their daily life was full of things that interest them less than half of the time. Most of the respondents (36%) reveal that their daily life was full of things that interest them some of the time. A percentage of 10% of employees consider that their daily life has not been full of things that interest them at any time working.

The score of this WHO-5 index vary from 0 to 100, and the respondent is considered at risk of depression if the score is below 50. The results identified 29% of employees (32 persons) at risk of depression. The mean of WHO-5 score for all respondents was 60.48, being above the average score at European Union level of 45.3 (Romania - 49.3) in March 2021 during the pandemic (Eurofound, 2021).

- In addition to the previously mentioned challenges, the company's members disclosed in the open question responses the following encounters: lack of concentration, sedentary way of life; noisiness, evasion, the incompetence of some people to use the tools intended for remote work, lack of breaks, overtime work, inability to see if colleagues are available or not, lack of face-to-face collaboration (incapacity to see facial expressions and gestures of colleagues during conversations), difficulties in remaining visible in the organization they belong to, the difficulty of generating creative and new ideas (compared to physically organized brainstorming), lack of effective communication and interaction with colleagues, lack of involvement, the reluctance of top management regarding the inferiority of remote work compared to office work, the

impossibility of employees to physically meet their new colleagues; the tendency to work outside working hours. A technical problem was also detected, the instability of the Internet connection. The respondents pointed out, in their responses to the open question concerning the emotional challenges while remote working: loneliness, anxiety and depression, decrease in self-confidence, the disappearance of the distinction between home and office; lack of team spirit, and lack of interest in work.

Virtual leadership and communication

- As the role of the leader in a virtual team is an essential one, the capabilities and skills of the leaders were analyzed from the perspective of the 80 employees that were supervised in their daily activities.

46% of the respondents believe that the leader, of the team they belong to, plans the time of meetings considering the availability and private life of the team members to a very large extent, 28% agree with this statement to a large extent, and 19% - in some extent. Another 8% of respondents believe that the leader of their team is not very good at planning meetings and does not take enough into account the availability of team members.

Most respondents state that the leader has very good communication skills, 50% of them agree with this statement to a very large extent, and 36% - to a large extent. However, 13% of respondents believe that their superior has very good communication skills to some extent, and 1% - to a very low extent.

Another factor analyzed was the leader's ability to effectively delegate tasks to subordinates. Thus, most respondents believe that the leader delegates tasks effectively to a very large extent (44%) and to a large extent (36%). On the other hand, 16% believe that the leader delegates duties effectively to some extent, and the other 3% - to a very small extent.

Since one of the basic managerial duties of a leader is monitoring the performance of tasks by the subordinates, this aspect was also analyzed. Respectively, a large part of the respondents expressed that the leader, of the team they belong to, monitors the performance of tasks effectively to a very large extent (45%) and to a large extent (40%). Comparatively, some believe that this fact is achieved to some extent (11%), to a small extent (1%) and to a very small extent (3%).

Another aspect analyzed among employees was their leader's involvement of team members in online meetings. Thus, 48% of respondents state that their superior actively involves team members in online meetings to a very large extent, 40% - to a large extent, and 5% of employees - to some extent. On the other hand, 6% of employees believe that the team leader actively involves team members in online meetings to a small extent, and 1% of them – to a very small extent.

The telework system also involves certain changes in terms of online communication tools. This change being analyzed, half of the respondents believe that their team leader has technical knowledge about the virtual communication tools they use to a great extent, 33% of them - to a great extent, 13% - to some extent. Comparatively, 5% of employees are of the opinion that their team leader needs to strengthen his technical knowledge of virtual communication in the telework system.

- The adaptation to the virtual work involves usability of new communication methods. Videoconferencing, email, and instant text messages were most often used. Thus, 65% of employees used the dedicated platforms for videoconferencing (Microsoft Teams, Webex, Zoom, Google, etc.) always, another 28% - often, and 4% - sometimes. A very small percentage of employees used videoconferencing platforms rarely (3%) or not at all (1%).

Another communication method used was the instant text or audio messages, using applications such as WhatsApp, Messenger, Viber or Telegram. 34% of them resorted to written messages always, another 18% - often, and only 7% - sometimes. Comparatively, 36% of them did not use this method of communication, and 15% rarely used it. On the other hand, 68% of the company's employees did not use instant audio messages at all working remotely. Another 18% rarely sent and received voice messages, and 6% - sometimes. Only 6% of respondents used this type of communication often and 3% always.

Another way of communication analyzed was phone conversations with colleagues. During the telework period, over half of the respondents (51%) did not use this type of communication at all. 21% of employees rarely collaborated with colleagues through phone conversations, and another 12% - sometimes. Comparatively, 7% reveal that they often called and were called by their colleagues, and 8% - always.

Also, about a quarter of the respondents (26%) always used email as a form of communication with their colleagues, and 30% - often. 28% sometimes sent messages via email, 14% - rarely, and only 2% - not at all.

The use of anonymous applications within the organization - digital communication tool - was also analyzed. Thus, more than half (57%) of the respondents mentioned that they do not know if anonymous applications, such as Mentimeter, Kahoot or Learningapps, are used in order to identify new opportunities, suggestions, ideas or emerging problems. Another 29% reveal that these applications are not used, and only 14% make use of these digital communication tools.

Stand-up meetings are a common tool in large companies and took place in an online or hybrid form since pandemic in the analyzed company. For the majority of employees (74%) these meetings are organized daily. 11% of respondents reveal that they participate in stand-up meetings only when necessary. Comparatively, 6% of employees are involved in such meetings 2 days a week, 3% - 3 days a week, another 3% - 4 days a week. Also, 3% of respondents state that they participate in stand-ups only once a week.

This analysis continued with the evaluation of feedback as a communication instrument between employees. The assessment and quality of feedback provided to colleagues was analyzed. Thus, half (50%) of them often refer to concrete situations and do not generalize, 21% always do this. 27% of respondents sometimes refer to exact circumstances when giving feedback, and only 3% rarely do so.

A good part of the employees speaks directly and in detail to their colleagues, 42% often and 20% - very often. Another 24% sometimes provide thorough feedback, 10% rarely, and 4% - very rarely.

Most employees (42% - very often and 42% - often) listen to what the colleague says and try to understand their perspective and feelings. Only 15% of them listen to their colleagues sometimes, and 1% - rarely.

More than half (53%) of respondents often give feedback that focuses on what colleagues should improve or change, and 11% - very often. Very few of the respondents say that they do this rarely, and 1% - very rarely.

In the same vein, most employees (49% - often, 38% very often) remain calm and proactive when giving and receiving a feedback message, another 13% - sometimes, and 1% of employees do this rarely.

Continue teleworking?

The most of respondents (42%) stated that working from home was very efficient compared to that in the office, and another 39% consider teleworking effective. Comparatively, 14% of the respondents reveal that from a personal point of view, the telecommuting activity was the same as the one in the office. Only 5% of employees consider telecommuting ineffective.

Almost half (44%) of the respondents state they are very satisfied with the work-life balance in the telecommuting system, and another 36% are satisfied. On the other hand, 15% of employees claim that this balance is satisfactory for them, and 6% - they are dissatisfied.

Almost half (44%) of the company's employees consider that teleworking has not influenced the number of hours worked, which remains the same as before. On the other hand, 40% of respondents claim that the number of hours worked from home has increased slightly. In comparison, another 9% say it has increased a lot. 6% of the respondents reveal the fact that the number of hours in telecommuting decreased a little.

At the time of survey almost half (44%) of the respondents state they currently work remotely daily – from home, another 14% - 4 days a week, 15% - 3 days a week, 8% - 2 days a week, and 6% only once a week. Comparatively, 7% of employees currently work remotely only if necessary, and 6% of respondents state they do not work remotely at all now. In order to have a complex perspective of telecommuting, the preferences of the employees regarding the workplace where they would like to work in the future were also analyzed. Thus, 31% of respondents state they would prefer to work remotely daily - from home, 17% - 4 days a week, 21% - 3 days a week, and 12% - 2 days a week. On the other hand, 6% of those analyzed would like to work from home only one day a week, 10% only if necessary, and a percentage of 3% would not like it at all. Almost half (45%) of those analyzed claim that in the future they would like to work remotely - from another location, (except home and office, e.g., a hub, a second home, from a friend, etc.) only if necessary. 39% of employees state that they would not at all prefer to work remotely - from another location. A percentage of 5% of those analyzed reveals that they

would work from another location only once a week, 4% - 4 days a week, 3% - 3 days a week, 4% - 2 days a week. Only 2% of respondents claim they would work from another location daily.

Inferential statistics

The data analysis was carried out through the PSPP statistical software. From a statistical point of view, the analyzed variables follow a normal univariate distribution, as the values of the Skewness and Kurtosis coefficients were between -2 and 2 (Annex 1) (George & Mallery, 2002). As follows, a number of six hypotheses were tested and confirmed by linear regression.

H1. The lack of office meetings affects the socialization with colleagues.

The linear regression shows a strong correlation between the two variables (the correlation coefficient $r=0.72$). The variation of lack of socialization with colleagues is explained in a proportion of 52% (the coefficient of determination R^2) (Ratner, 2009) by the variation of missing office meetings. The statistically significant result of p-values ($p < 0.05$) gives evidence for the correlation between the variables (Annex 2).

H2. Work productivity is correlated to time management efficiency in the telework system.

Productivity in the telework system is positively influenced by the way of efficient time management. The direct link of moderate intensity ($r=0.63$ belongs to the range $[0.3-0.7]$) between telework productivity and time management efficiency is statistically significant ($p < 0.05$) and the variation of telework productivity is 40% justified by time management efficiency (Annex 3).

H3. Work productivity is influenced by safety and protection measures in the telework system.

There is a statistically significant ($p < 0.05$) and moderate positive linear relationship ($r=0.47$) between the two variables. The telework productivity variation is 22% explained by variation of safety and protection measures (Annex 4).

H4. Employees wish to continue remote work due to work-life balance.

Due to the way of managing the balance between personal and professional life, employees would like to work remotely in the future as well. There is a moderate positive association ($r=0.52$) between the preference for the telework regime in the future and the work-life balance. The correlation is statistically significant ($p<0.05$), and the variation of work-life balance explains 27% of the variation of wishing to continue working remotely (Annex 5).

H5. Work-life balance is influenced by work productivity

The correlation between the variables is significant ($p<0.05$). There is a moderate positive linear relationship ($r=0.51$) between work-life balance and work productivity in the telework system. There are other factors that influence the work-life balance, work productivity influencing the balance by 26% (Annex 6).

H6. The level of concentration in the absence of colleagues' interruptions affects the work productivity.

Data analysis shows a significant correlation ($p<0.05$) between the variables. This relationship is positive and moderate ($r=0.68$), and the variation of concentration in the absence of colleagues' interruptions explains 46% of the variation in the work productivity (Annex 7).

Conclusions

Considering the main aim of this study, benefits and challenges of virtual work were explored and some connections were established.

Employees consider they were more productive telecommuting, had an increased level of concentration, increased level of motivation in terms of safety and protection because the company met their needs, increased level of motivation due to the possibility of managing their time more efficiently.

Maintaining a structured work schedule was a challenge for some. The lack of information necessary to perform their duties was a difficulty for some, while the lack of adequate workspace was a problem just for a few. The need to sign electronically was a challenge for some, but the need to fulfill family/social responsibilities at the same time was not considered as a significant problem. Most of them did not encounter any difficulties in terms of delays in the performance of work tasks. The

respondents encountered difficulties collaborating with other team members were not many. The most important disadvantage felt by the company's employees was the lack of office meetings.

The open questions identified some positive expected or not questioned items, like better work-life balance, having more free time, the possibility to relax or sleep during the break, being nearby the fridge, supervising home in the meantime, saving time and money commuting and less stress, more flexibility and time for personal development. Besides, the trials mentioned by respondents refer to lack of breaks, concentration, technical competences needed for remote work, personal meetings and interactions, team spirit and confidence. They also mentioned loneliness, anxiety, depression, blurred work-life balance and the risk of sedentary life.

The WHO-5 average score is above the risk of depression, but those scoring below should be of interest and taking care of as the studied company has 99% of respondents younger than 45 years. In terms of well-being, the happiness of employees is essential, and considering the risk of depression especially for young persons is something to be highly well-thought-out for long term perspective of an organization.

Overall, the leaders were thought as taking in consideration the members availability when scheduling meetings, having good communication skills, delegating tasks and effectively monitoring task performance, actively involving of others in online meetings, having good technical knowledge about the virtual communication tools. In terms of communication, videoconferencing, email, and instant text messages were mostly used, just sometimes voice messages, and less than half of them used phone conversations.

The study results confirm the work productivity is corelated positively to time management efficiency, to a better concertation in the absence of colleagues' interactions, it depends on safety and protection measures in the telework system. On another side, the work-life balance is positively influenced by work productivity. Furthermore, work-life balance influences positively employees' preference to continue teleworking.

The sample used in this study is a non-probabilistic one, therefore the results should be taken just as indications, disclosures, references for adequate and representative sampling study. This study provided valuable insights for the company's top management and could do that for others in understanding teleworkers and developing their virtual leadership performance.

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Annexes

Annex 1. Variables' descriptive statistics

Statistics										
	I11aMtvPrdctv	I11cMtvCnctrNntr	I11fMtvTnpAdmnEfct	I15WkrLfbInc	I9bDezEmtLpsIntBir	I22aPrfRmtDmcl	I9cDezEmtLpsScdClg	I11bMtvMsrSgrPrtc		
N Valid	109	109	109	109	109	109	109	109		109
Missing	0	0	0	0	0	0	0	0		0
Mean	3.84	3.64	4.02	4.18	2.63	2.84	2.97	3.72		3.72
Std Dev	.98	1.17	1.08	.88	1.32	1.76	1.37	1.19		1.19
Kurtosis	.49	-.55	.83	-.05	-1.21	-.52	-1.20	-.23		-.23
Skewness	-.81	-.52	-1.12	-.86	.19	.72	-.08	-.77		-.77
Minimum	1	1	1	2	1	1	1	1		1
Maximum	5	5	5	5	5	7	5	5		5

Source: authors' calculations

Annex 2. Socialization with colleagues - office meetings lacking

Model Summary (I9cDezEmtLpsScdClg)				
R	R Square	Adjusted R Square	Std. Error of the Estimate	
.72	.52	.51	.96	

ANOVA (I9cDezEmtLpsScdClg)					
	Sum of Squares	df	Mean Square	F	Sig.
Regression	104.86	1	104.86	114.43	.000
Residual	98.06	107	.92		
Total	202.92	108			

Coefficients (I9cDezEmtLpsScdClg)						
	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
(Constant)	.52	.25	.00		2.07	.040
I9bDezEmtLpsIntBir	.74	.07	.72		10.70	.000

Source: authors' calculations

Annex 3. The telework productivity and time management efficiency

Model Summary (I11aMtvPrdctv)					
R	R Square	Adjusted R Square	Std. Error of the Estimate		
.63	.40	.39	.77		

ANOVA (I11aMtvPrdctv)					
	Sum of Squares	df	Mean Square	F	Sig.
Regression	41.51	1	41.51	70.69	.000
Residual	62.84	107	.59		
Total	104.35	108			

Coefficients (I11aMtvPrdctv)						
	Unstandardized Coefficients		Standardized Coefficients		t	Sig.
	B	Std. Error	Beta			
(Constant)	1.54	.28	.00		5.41	.000
I11fMtvTnpAdmnEfct	.57	.07	.63		8.41	.000

Source: authors' calculations

**Annex 4. Telework productivity influenced
by safety and protection measures.**

Model Summary (I11aMtvPrdctv)

R	R Square	Adjusted R Square	Std. Error of the Estimate
.47	.22	.21	.87

ANOVA (I11aMtvPrdctv)

	Sum of Squares	df	Mean Square	F	Sig.
Regression	23.19	1	23.19	30.57	.000
Residual	81.16	107	.76		
Total	104.35	108			

Coefficients (I11aMtvPrdctv)

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.39	.28	.00	8.64	.000
I11bMtvMsrSgrPrctc	.39	.07	.47	5.53	.000

Source: authors' calculations

Annex 5. Future telework wish and work-life balance

Model Summary (I22aPrfRmtDmcl)

R	R Square	Adjusted R Square	Std. Error of the Estimate
.52	.27	.27	1.51

ANOVA (I22aPrfRmtDmcl)

	Sum of Squares	df	Mean Square	F	Sig.
Regression	91.58	1	91.58	40.03	.000
Residual	244.77	107	2.29		
Total	336.35	108			

Coefficients (I22aPrfRmtDmcl)

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	7.20	.70	.00	10.23	.000
I15WkrlfBlnc	-1.04	.16	-.52	-6.33	.000

Source: authors' calculations

Annex 6. Work-life balance influenced by telework productivity

Model Summary (I15WkrLfBlnc)					
R	R Square	Adjusted R Square	Std. Error of the Estimate		
.51	.26	.26	.76		

ANOVA (I15WkrLfBlnc)					
	Sum of Squares	df	Mean Square	F	Sig.
Regression	22.19	1	22.19	38.21	.000
Residual	62.14	107	.58		
Total	84.33	108			

Coefficients (I15WkrLfBlnc)					
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.41	.30	.00	8.15	.000
I11aMtvPrdctv	.46	.07	.51	6.18	.000

Source: authors' calculations

Annex 7. The level of concentration in the absence of colleagues' interruptions and the work productivity

Model Summary (aMtvPrdctv)			
R	R Square	Adjusted R Square	Std. Error of the Estimate
.68	.46	.46	.72

ANOVA (aMtvPrdctv)					
	Sum of Squares	df	Mean Square	F	Sig.
Regression	48.38	1	48.38	92.50	.000
Residual	55.97	107	.52		
Total	104.35	108			

Coefficients (aMtvPrdctv)					
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.77	.23	.00	7.81	.000
cMtvCnctrNntr	.57	.06	.68	9.62	.000

Source: authors' calculations

CULTURAL HERITAGE AND TOURISM IN ŞALIURFA MEDIEVAL CAVE STONE QUARRIES “BAZDA CAVES”

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ABSTRACT. Cultural and natural heritage is a consociate heritage of all humanity. As the country and region where the cultural heritage is located gains importance, more tourists come and thus economic gain for the region increases with tourism. Located in the UNESCO World Heritage Tentative List, the Bazda Caves with their appearance and mysterious history, that are located within the borders of the historical Harran district of Şanlıurfa, should be introduced to the world by bringing them together with cultural tourism. In the study, “Bazda Caves” will be examined and the relationship with tourism as a Cultural Heritage value will be conveyed.

Keywords: cultural heritage, tourism, architecture

JEL Classification: L83, Z00, Z39

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Introduction

Since the cultural and natural heritage is very important, UNESCO has created the “World Heritage Convention” for the heritage to be protected internationally as long as humanity exists and to transfer them to the future generations. (UNESCO WHC, 2021)

“The purpose of the World Heritage Convention is to define the cultural and natural heritage, to develop social awareness and cooperation that will protect this heritage, to preserve the universally valued cultural and natural areas at an international level by preparing an internationally selected list and pass on to future generations with all their qualities.” (Böke, 2020)

Cultural and natural heritage is a consociate heritage of all humanity. Therefore, cultural heritage values have international value. It is important to carry out conservation studies as long as humanity exists and to transfer it to future generations at an international level. As the country and region where the cultural heritage is located gains importance, more tourists come and thus economic gain for the region increases with tourism.

Harran and its surroundings region is an important center for cultural heritage tourism. The tourism road of Tektek Plateau of Harran consists of Bazda Caves, Han El-Ba'rür Caravanserai, Suayip City and Soğmatar Ancient City in an order. Located in the UNESCO World Heritage Tentative List, the Bazda Caves with their appearance and mysterious history, that are located within the borders of the historical Harran district of Şanlıurfa, should be introduced to the world by bringing them together with cultural tourism. In the study, “Bazda Caves” will be examined and the relationship with tourism as a Cultural Heritage value will be conveyed.

Literature Review

Caves and Cave Tourism

Caves are brought to tourism in the form of visual cave enterprises in our country as well as in the world. It is also seen that the visual cave enterprises in western countries are operated as theme parks, whereas in our country, they mostly serve with picnic areas, local products and restaurants. Based on the values inside the cave, visual cave operators make walking paths and lighting inside the cave based and make the cave ready for visitors.

The business operators set up remote sensing systems to observe the slightest change in the cave; and they apply a reservation system so that the visits can take place in a certain order. (Yozcu, 2020).

Caves, which are formed by natural means or human influence, can serve their visitors under different types of tourism such as geotourism, health tourism, faith tourism with the help of cultural, geological, ecological, atmospheric etc. values they contain. In recent years, travelers are shifting from mass tourism to alternative tourism types. With the changes in the touristic demand, the diversification of tourism and its spread over twelve months, cave tourism is also developing. Each cave exhibits its own unique structure when its geological formations are taken into account, and it is formed over thousands of years as a process. The geological formations in the caves constitute visual appeal; the air quality formed by the cave climate constitute health appeal; anthropological remains constitute cultural attractions. Errors should not be made in practice in opening and operating the caves for tourism.

Harran

Located roughly 20 kilometers from Turkey’s present-day border with Syria in Upper-Mesopotamia, Harran lies at the heart of where mankind first settled down. Archaeological remains — such as those at the nearby site of Göbekli Tepe— demonstrate the earliest signs of civilization as we know it (Figure 1).



Figure 1. From Göbeklitepe
Source: Authors’ photo

Here, the cultivation of crops and the domestication of animals first came into practice, and the first connections between religion and architecture were formed. The city was once populated by the *Sabians*, a community of star worshippers, and became a vital trading post in the ancient world. Its geographical location provides an outstanding view of the constellation Orion. The world's first observatory and university were constructed here, of which the great archway still stands today. Much later, in the 9th century AD, Harran was the leading city for the production of celestial globes in the Arab world. (2).



Figure 2. Harran Map

Source: 14.04.2022 Google Map



Figure 3. Bazda Map

Source: 14.04.2022 Google Map

It is reported that Harran was a place where the moon was worshiped before people started farming and it is the oldest observatory to study the stars. It is predicted that Harran's "sin" belief and opening to faith tourism will quickly bring Bazda to the agenda of the world public opinion. (Figure 2, Figure 3) The historical importance of Harran, the city of Sin, has been revealed in many studies. In the belief of the Sumerians and Assyrians, the symbol of the moon god Sin is the crescent. This symbol was later used by Turkish tribes and later used in Muslim places of worship. Sin cult has made Harran an important center. Most of the agreements were made in this center, and the first "university" education institution in history was established here (Figure 4) (Çalapkulu, 2021).



Figure 4. First “university” education institution

Source: (4) <http://www.harran.gov.tr/ilk-universite>

Bazda

It is estimated that Bazda Caves were built in the Roman period. From the Arabic inscriptions written on the rocks it is indicated that the stone quarry was operated by Abdurrahman al-Hakkari, Muhammet İbn-i Bakır and Muhammed el-Uzzar during the 13th century and also indicated that historical places such as the Harran Walls, Shuayip Ancient City and Han el-Barur Caravanserai in the vicinity were built with stones taken from the cave. (Figure 5) Many squares, tunnels and galleries were formed in the caves as a result of stone removal for hundreds of years, while some caves are seen to have three floors (Önal, 2019).



Figure 5. Bazda Cave

Source: Tunçay, 2021



Figure 6. Bazda Cave Photo and Sketch

Source: Photo (Doğan, 2021) Sketch (Tunçay 2021)

Hundreds of meters of galleries and halls were opened by carving the hard rocks. In the Middle Ages, stone blocks were cut and many historical buildings were built with stones taken from here. The biggest one is located in the village on the right at the 16th km of the road. Wide squares were created by putting buttresses 10-15 meters in height in this huge cave, which was carved in two floors from place to place. With many long galleries and tunnels, exits were provided towards various directions of the mountain (Figure 6).

Research Methodology

The main purpose of the study is to understand the place of Bazda Caves in tourism which are in our cultural heritage, to examine the sustainability of its existence, to examine ideas that will increase its role in tourism, and to contribute to its promotion to the world.

Within the scope of the study, having conducted sketches, photo shoots and architectural determinations in the field, the aim is to create sustainable-oriented ideas in terms of the tourism value of the cultural heritage owned by obtaining information about the area by literature studies and meeting with the people living in the region. (Özdemir Çetiner et al. 2021)

Discussions

By the restoration realisation of Bazda Caves, the stone quarries, whose activities dating back centuries, have ended, will keep the cultural heritage alive with tourism. By restoration works of cleaning the floor, ceiling and wall parts of the cave and strengthening the columns of the cave, it should be ensured to be transferred to the future generations. While restoration works of the cultural heritage, accommodation, eating-drinking and activities (workshops, courses and seminars where local objects can be produced, art events, sports events, etc.) should be held.

Located on the route of Harran-Şuaybşehir-Soğmatar, which is an important tourism route in Southeastern Anatolia, Bazda Caves, together with the Han el-Ba'rür caravanserai in its immediate vicinity, belonging to the Ayyubids period and was restored by the Ministry of Culture and Tourism after the reinforcements and cleaning excavations, should be

considered as an accommodation and resting center for tourists. (Kürkçüoğlu, 2021). Virtual reality experience software to be used with VR glasses will be developed for the underground enterprises of Bazda, and the whole world humanity; will be invited to the Southeast Anatolian geography, which is the starting point of faith, agriculture and mining. In this way, time travel will be experienced in a virtual reality environment in order to meet Mesopotamian stonemasons in the Bazda underground operation (Çalapkulu, 2021).

The Illuminated Bazda Caves Art Center Project will be transformed into an Art Center with the restoration of the quarries (under the guidance of world-renowned photographer Michael Comte). The caves, which are composed of stone quarries, have remained idle in many aspects such as history, aesthetics, and atmosphere. The restoration works will first start with the cleaning of the floor and other parts of the cave, then the cave columns will be strengthened and so this historical structure will be transferred to the future generations. While preserving the historical remains of this thousands of years old historical region, artistic activities will be carried out in the region at the same time. Laser lights will expand to both the ancient site and modern art such as the city walls and olive plantation area with the help of solar panels (Figure 7).



Figure 7. Laser light installation reflected from cave ceiling and cut stone
Source: Sketch and Photo (Comte 2021)

In the project, that will be realized without harming the natural texture of the region by preserving the cultural heritage, the region will turn into a multi-alternative area with restaurants, museums, hotels and seed bank. For the development of the local economy at a great scale, working in cooperation with local craftsmen and production workshops in the region will be supported.

Illuminated Bazda Caves Art Center Project will add a new dimension to cultural tourism activities in the world and will be reflected as a very special meeting point of history and contemporary life. The planned project; with its contemporary, active and modern cultural destination identity, it will be one of the favorites of Şanlıurfa. It is aimed to be a pioneering tourism project in terms of education and cultural development, as well as making a great economic contribution to the region. Studies on the planning of branded tourism campuses and the rapid and stable organization of tourism cities are continuing (1).

Conclusions

Bazda, which held many important features, is an important heritage site as a document quality that has survived to the present day after its destruction as a result of the invasion. There is a need for a certain process due to regulations in the detailing and implementation of the restoration works to be carried out for the events to be held in the venues.

Preserving the cultural heritage by bringing it in use of tourism, transferring it to future generations, providing economic benefits will make a significant contribution to the local people.

The tourism route allows visitors to visit the region comfortably. It should be considered as an accommodation and resting center for tourists, together with its cultural heritage values, near the biggest, most mysterious and worth visiting historical stone quarries in Anatolia.

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ANALYSING THE EMPLOYMENT EFFECTS OF THE EXCHANGE RATE, FOREIGN DIRECT INVESTMENT AND TRADE OPENNESS ON SOUTH AFRICA'S NON-TRADABLE SECTORS

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ABSTRACT. Mounting assertions of the increased benefits of foreign trade integration, in terms of increased wages and labour, as well as factor productivity and resource reallocations, are accompanied by subsequent concerns of coexisting job destruction, particularly for countries with evidently rising unemployment and poverty levels. Such is the case for a post-apartheid South African economy, ravaged by persistently high unemployment rates amid increased trade liberalisation. In drawing meaningful inferences, this study examined the effects of South Africa's trade openness, the real effective exchange rate and foreign direct investment (FDI) on job creation or employment in selected non-tradable sectors. A quantitative approach was used, with the aforementioned trade-related factors as explanatory variables. Employment in the non-tradable sector's construction, finance, and the wholesale and retail trade sector served as dependent variables. A quarterly dataset from 1995Q1 to 2021Q1 was employed. While the standard Autoregressive Distributed Lag (ARDL) model was used to gauge short-run and long-run relationships. Further econometric methods such as the correlations analysis were conducted to obtain additional understanding of the nature of the set variables. Findings showed that trade liberalisation effects induce varying implications on employment in the considered non-tradable sectors, perhaps due to

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idiosyncratic characteristics in the nature and operational structure of each sector. Trade openness was shown to have exhibited significant long-run implications on job creation in all the sectors, whereas the parameters of the rest of the explanatory series were not significant in the long-run. Results further showcased mixed short-run effects of trade factors on employment in all sectors, with significant parameters for the real effective exchange rate and trade openness with employment in the construction sector. Including significant short-run relationships for the real effective exchange rate with employment in the finance sector. Significant parameters for employment in the wholesale and retail trade sector with FDI and the real effective exchange rate were established. Further inferences were made in expounding on the established dynamics.

Keywords: job creation, employment, non-tradable sector, real exchange rate, and trade openness.

JEL Classification: E24, F16, F31, O49

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Introduction

Over the years, nations across the world have pursued freer trade through relatively relaxed trade barriers via an array of agreements and institutions, while many countries have obtained substantial gains in trade benefits due to increased internationalisation and economic integration (Thompson, 2007; IMF, 2001). The integration of countries' economies onto the global market system has been a dominant global movement for growth and resilience under the globalisation agenda (Usman & Landry, 2021:1; Ortiz-Ospina & Beltekian, 2018). Karunaratne (2012:5) notes that foreign trade provides the capacity to maximise domestic and global welfare from its analytical advantages. Much of the stylized beliefs on international trade upholds that internationalisation facilitates domestic market integration to global markets and systems, and thereof stimulates

cultural exchange, improved governance, the rallying of cross-border capital movements, and secures funds for the transfer of knowledge and information (Altiner et al., 2018:1764). However, alongside such positive sentiments on trade is the existing reality of higher rates of unemployment in various countries worldwide which continue to exhibit negatively offsetting labour market impacts, especially in low and middle-income countries amid their openness to global markets (ILO, 2016). This study contributes to the body of research on international trade studies by assessing the non-tradable sector's employment effects of increased foreign integration. It considers trade openness, the real effective exchange rate and foreign direct investment (FDI) as key globalisation factors within the South African context.

Calls for robust trade reforms to stimulate economic growth and resilience continue to override market sentiments on foreign trade. Such assertions include those made by the World Bank (2018) which insists that economic growth for all is enabled by stronger open trade policies. Accompanied by the premise that firms exposed to the foreign trade market possess a higher likelihood of surviving economic downturns. However, the World Trade Organisation (WTO) (2021:98) posits that differential impacts of foreign trade can be observed between exporting and non-exporting sectors. Likewise, the impacts of globalisation are uncertain and tend to be country-specific, requiring targeted country trade policies, idiosyncratic to each country's capabilities, and extent of its economic and social development (Jansen et al., 2011:23-24). Nonetheless, the presiding objective calls for the attainment of desirable net effects in wages and employment through effective trade reforms.

As of South Africa's post-apartheid and relatively open economy (Padayachee, 2010:2), the integration of its economy onto global markets has had some importance in stimulating growth and the employment of unskilled and semi-skilled workers, specifically in its tradable sectors (Edwards & Lawrence, 2012:5). Notwithstanding, scholars such as Breitenbach & Slabbert (2008) showcase that South Africa's exposure to globalisation has not had a satisfactory impact in assisting towards alleviating its dire poverty and unemployment challenges. In fact, as of the 3rd quarter of 2021, South Africa recorded an official unemployment rate of 34,9 per cent, quoted by StatsSa (2021) as the "highest since 2008", with industries such as the "wholesale and retail trade", the "community and social services", having respectively incurred the largest

decrease in employment of 309 000 and 210 000 jobs. Arvanitis (2005:67), the Industrial Development Corporation (IDC) (2013:29) and The Presidency (2014:1) also highlight that the country's increase in FDI cashflows in funding its investment and savings gap has also been accompanied by heightened exposure to currency shocks. Despite the social and economic transformations brought about since 1994, South Africa's labour market has been largely constrained by unsettling unemployment levels, and daunting economic performances (Mahadea & Simson, 2010:391; Steyn, 2014). Its export-driven manufacturing tradable sector alone has been vulnerable to low growth and induced unemployment, due to its relative weakness in competing against other foreign trade counterparts who may have capitalized on the global market's growth opportunities (Rodrik, 2008:772).

Review of theory and literature

Foreign integration vs. tradable and non-tradable sector classifications

This study specifically focused on the employment dynamics of South Africa's non-tradable sector in light of the country's trade openness, the real effective exchange rate and FDI. Various scholars (i.e., Betts & Kehoe 2001:1; Bliss, 2004:3) purport that economic sector goods can be classified as tradable and non-tradable industries. Depending on their level of tradability and positioning along the tradability continuum as either perfectly tradable or perfectly non-tradable, based on their export intensity and import penetration (Ngandu, 2009:118). Sectors with high export intensities and import penetration are known to be tradable sectors, whereas, those with low trade characteristics are considered to be non-tradable, as considered for most service sectors (Ngandu, 2009:118). Tradable goods exposed to global markets satisfy the single price law, while non-tradable sector goods' prices are administered by domestic market conditions (Betts & Kehoe, 2001:1). Popular literature on economic sectors suggests that South Africa's non-tradable sectors make up roughly 80 per cent of its total economic sectors (Bhorat et al., 2014:3), comprising of real estate, electricity and water, wholesale and retail trade, transport, finance, construction, including other services. Meanwhile, tradable activities constitute the mining, fishing and energy,

hunting, agriculture, manufacturing, and forestry industries (Flatters & Stern, 2007; Hausmann, 2008; Mano & Castillo, 2015:22; Ngandu, 2009; Ojeda et al., 2014:2; Rodrik, 2008:778; Spence & Hlatshwayo, 2014:273; Spence & Hlatshwayo, 2012:715).

Scholars such as Adamu (2014), Adhikary (2011), Faini (2004), Gries et al. (2009), and Yanikkaya (2003), amongst others, consider the sum of imports and exports divided by gross domestic product (GDP) as the traditional barometer for national economies' extent of trade openness or liberalisation. In concept, trade openness speaks to the reduction or removal of quotas and tariffs including other forms of trade restrictions to international trade (Ulasan, 2012:3; Mushtaq et al., 2014:56). Such exposure is accompanied by increased competition and may lead to the creation and/or destruction of jobs within national economic sectors (Jansen & Lee, 2007:19). Whereas, trade induced job destruction is a country's labour market's risk-side of foreign trade. Another feature of exposure to foreign trade is the extensive adjustment and reallocation of production factors such as labour and capital across or within firms or sectors, which are particularly sector or firm idiosyncratic and may differ relative to productivity levels of each firm or sector (Itskhoki & Helpman, 2015:1). Firms are continually forced to adapt and adjust to dynamic economic conditions. The new trade theory posits that uncompetitive firms tend to liberate factors of production which are later absorbed by competitive firms across or within sectors (Melitz, 2003). However, smoother adaptivity and adjustments tend to be mostly in developed nations, which are theoretically considered to have full employment, where competitive markets survive and uncompetitive ones shrink or exit (Jansen et al., 2011:5-6).

Islam & Majeres (2001:280), Squalli & Wilson (2006:2), assert that firms may shift their production techniques towards the labour-intensive inputs for employment-led growth and thus increase job creation, or defer to equipment-based growth. Serrano (2008:2) highlights that increased demand for labour and production may be met by reducing the marginal production costs through relaxed trade tariffs which lower imported material costs, in support of Smith (1776) and Ricardo's (1817) assertions on trade benefits. The endogenous technological change theory also emphasizes developing economies' ability to obtain long-term growth benefits through increased trade openness projected

in the increasing returns to scale principle, based on output and employment increases (Pigka-Balanika, 2006:7). Contrastingly, an opposing view holds that increased trade openness induces increased vulnerability of national economies to external shocks or crises (Cavallo & Frankel, 2008:1431).

Employment vs. trade openness, the exchange rate & FDI

An open economy with a free-floating exchange rate is vulnerable to heightened uncertainty from changing trade movements and FDI effects, including increased variations in the real effective exchange rate. For instance, the likely decrease or increase in investment and trade activities may be due to either the share of forward hedging, investors and traders' behaviour and assumptions, and the denomination of currency contracts (Kosteletou & Liargovas, 2000). Froot & Stein (1991), Goldberg & Klein (1997:9), showcase that FDI inflows may decrease following a real effective exchange rate appreciation due to the increase in the cost of external financing than domestic financing, as indicated in the "imperfect capital markets" theory. Whereas, the purchasing of domestic assets by international entities or the increase in FDI inflows may be induced by a domestic currency appreciation. Alternatively, the labour cost theory proposes that an exchange rate appreciation (depreciation) evokes a decrease (increase) in FDI inflows under the assumption that cheap labour determines inward FDI (Kosteletou & Liargovas, 2000:139).

The "Balassa Samuelson effect" explains that the real effective exchange rate inclines to appreciate with the rise in the consumer price index (CPI) as a larger share of a nation's consumption basket is associated with the non-tradable sector's goods (Catão, 2007). Accordingly, domestic wages and employment tend to increase with an increase in domestic demand, assuming that supply is not perfectly inelastic or elastic. Whereas, the increase in wages stimulates the demand for non-tradable sector services, leading to the sector's expansion (Faggio & Overman, 2014:93). However, under the "general equilibrium effects", an increase in non-tradable sector services and goods' prices would offset the demand-led employment benefits due to increased costs such as housing costs, which may counteract supply effects (Faggio & Overman, 2014:93). Nevertheless, when labour supply is perfectly inelastic, the non-tradable sector's employment may increase due to the partially offsetting factors, while a

more elastic labour supply would induce a larger multiplier effect in the non-tradable sector. On the other hand, the tradable sector may not only be affected by the mounting foreign market competition, but may additionally be affected and offset by supply and demand factors, such as increased housing prices and high labour costs affecting the non-tradable sector (Faggio & Overman, 2014:93).

Non-tradable sector goods tend to experience minimal competition from foreign prices compared to tradable goods. However, negative or positive shocks to prices in the tradable sector also induce indirect effects on employment in the non-tradable sector (Moretti, 2010) Marchand, 2017:6-7). Where an increase in the tradable sector's supply and labour wages caused by positive foreign market shocks would stimulate the non-tradable sector's factor demand and employment from a boost in local budget constraints (Marchand, 2017:6-7). Notwithstanding, the level of technology and extent of consumer preferences for non-tradable and tradable goods also determines the magnitude of the multiplier effect (Moretti, 2010). A larger multiplier effect would imply a high-income elasticity of non-tradable goods and services. A high level of skilled jobs with increased earnings in the tradable sector also promotes a higher demand in local services, where the extent of these effects depends on the elasticities of housing supply and domestic labour. According to Marchand (2017:6-7), higher prices and increased wages induced by trade liberalisation in a tradable sector consisting of unskilled labour-intensiveness also corresponds with an increase in prices for an unskilled labour-intensive non-tradable sector. Whereas a non-tradable sector characterised by skilled labour-intensiveness experiences reduced prices. Nevertheless, the extent of these spill-overs is much smaller, likely due to changes in market conditions resulting from high market regulation, relative to inefficient price adjustments.

Various studies have sought to investigate the employment implications of trade openness, the real effective exchange rate and FDI. Empirical research by Gaddis & Pieters (2014:25) revealed a decrease in Brazil's tradable sector employment from increased trade openness, yet with no impact on aggregate employment due to the reallocation of highly-skilled labour towards the non-tradable sector, aside from low-skilled labour which was negatively affected. Also, Haltiwanger et al. (2004:207) showed a net employment growth decrease in Latin American

economies due to higher trade openness established through reduced tariffs. Janiak (2006:33) posits that the loss of employment in small firms tends to supersede job gains resulting from increased productivity, where there's a reshuffling of labour from low to highly productive firms. However, Casacuberta et al. (2004:246) argues that larger establishments are inclined to have higher prospects for net employment growth and increased productivity, with reduced rates of job destruction. Menezes-Filho & Muendler's (2011:33) study on Brazil suggested that displaced labour caused by trade openness could not be absorbed by comparative advantage driven sectors, leading to job losses. Trade openness induced job losses were also observed in the study by Asghar et al. (2014:53) regarding countries within the South Asian Association for Regional Cooperation (SAARC). The study also observed low wages and underemployment in agriculture and informal sectors. Goldberg & Pavnik (2003) revealed a failure of trade liberalisation benefits in spreading towards the non-tradable sector in a statistically significant manner. Contrasting results to the above findings were observed in the study by Hasan et al. (2012:279), who showed a decrease in India's unemployment from increased trade openness within states with high export share per sector, and for flexibly labour abundant states. Kim (2011:1) also asserted that in the face of labour market flexibility, job creation may be realised.

Moreover, Klein et al. (2003:261) examined the effects of the real effective exchange rate on the United States' labour reallocation. Findings revealed that currency appreciation results in job destruction and a further total employment growth slowdown, with open sectors being the most affected. Also, Chen & Dao (2011) established that China's real exchange rate appreciation led to a decline in both tradable and non-tradable sector jobs. Huang et al. (2014: 339) however showed that the Canadian dollar's appreciation significantly induced negative effects on its manufacturing sector due to the export-weighted exchange rate, whereas the rest of the sectors had not been affected. Moreover, Kim (2005) revealed that Korea's real exchange rate had a positive relationship with employment for industries with a low import-input ratio. In the South African case, Ngandu (2009) established that the Rand exchange rate appreciation led to the reallocation and absorption of jobs towards non-tradable sectors from tradable sectors due to high-export price in the latter.

Furthermore, FDI is considered by many to be a crucial source of poverty reduction, economic growth and development (Mwilima, 2003:31; Kurtishi-Kastrati, 2013:26; Joshi & Ghosal, 2009:34). However, there are fewer studies tailored towards establishing FDI effects specifically on either tradable or non-tradable sectors. Focus largely goes to examining net-employment effects. Kurtishi-Kastrati (2013:28) underscores that FDI tends to directly or indirectly induce job creation within countries with high labour intensity and relatively less capital. Indirect effects may be realized via increased local demand and expenditure. In terms of empirical research, Wei (2013:52) established contrasting results of FDI effects on China's employment in the primary, secondary and tertiary sectors. Such that, the primary sector was positively and significantly affected, while a non-significant employment effect was observed in the secondary sector, and lastly, the tertiary sector encountered significant negative employment effects of FDI. Moreover, Mehra (2013) purports that India's industrial and services sectors tend to be the key FDI recipients, as a result, a negative relationship was established between India's agricultural sector and FDI. These findings were supported by Nizamuddin (2013) who found negative employment effects of FDI within India's retail trade sector. Contrastingly, positive FDI long-run effects on employment growth were observed in South Africa by Tshepo (2014:18), who went on to add that increased corruption may be an inhibiting factor towards the country's flow of FDI. Karlsson et al. (2007:1) also revealed positive effects of FDI on employment growth, likely due to firm characteristics such as the firms' accessibility to export markets.

Methodology

To meet the focus objective, empirical estimations were conducted using a quantitative analysis involving quarterly figures of South Africa's non-agricultural employment data from various non-tradable sectors. Particularly, employment in the construction sector and finance sector, including the wholesale and retail trade sectors. Employment (EMP_t) series from the various sectors were considered as the dependent variables and regressed against the explanatory variables; trade openness ($TOPEN_t$), the real effective exchange rate ($REER_t$) and FDI (FDI_t). All datasets were obtained from the South African Reserve Bank (SARB).

Additionally, all employment data in non-tradable sectors was captured in index form as the unit of measurement, while figures of FDI were captured in millions. Subsequently, all the variables were transformed into their natural logarithmic forms for the study's econometric analyses. To establish South Africa's trade openness series, datasets of the country's real GDP, real exports and real imports were utilised based on the formula; (exports + imports)/GDP, following Adamu (2014), Adhikary (2011), Faini (2004), Gries et al. (2009), and Yanikkaya (2003). Figures of GDP, real imports and real exports were all at constant 2015 prices. Accordingly, about 105 quarterly observations across the sample period 1995Q1 to 2021Q1 were employed as input variables.

To establish estimations of the short-and-long-run relationships, the Autoregressive Distributed Lag (ARDL) model was employed as a means of showcasing the potential for cointegrating vectors between the dependent variables and explanatory variables or regressors. The ARDL model, by Pesaran et al. (1999) and Pesaran et al. (2001), is a vigorous econometric approach sufficient in dealing with the dynamic series of a changing economy. This model is superior to other conventional models to cointegrating procedures despite the supposed order of integration of variables as it relates to $I(0)$ or $I(1)$ orders (Dube & Zhou, 2013). To ascertain the robustness of the considered models' output estimations, diagnostic tests for heteroscedasticity, normality and autocorrelations were conducted. Accordingly, Equation (1) was employed in executing the ARDL model's bounds test to cointegration for non-agricultural employment in the construction, finance, and wholesale and retail trade sectors.

$$\begin{aligned} \Delta LY_t = & \alpha_0 + \sum_{i=1}^k \beta_i \Delta LY_{t-i} \\ & + \sum_{i=0}^k \delta_i \Delta LTOPEN_{t-i} + \sum_{i=0}^k \sigma_i \Delta LREXR_{t-i} + \sum_{i=0}^k \gamma_i \Delta LNFDI_{t-i} \\ & + \eta_1 LNEMP_{t-1} + \eta_2 LTOPEN_{t-1} + \eta_3 LREXR_{t-1} + \eta_4 LFDI_{t-1} + \varepsilon_t \dots\dots\dots (1) \end{aligned}$$

Such that: the variables' first difference operator was represented by Δ , while ΔLY_t denoted employment in each sector expressed in its natural logarithm as dependent variables. Whereby, ΔLY_t was recurrently

expressed to cater sector, employment in the finance sector, and employment in the wholesale and retail trade sectors, as the non-tradable sectors. Furthermore, the study regressands were represented as *LTOPEN*, indicating the natural log of trade openness, while *LREXR* as the real effective exchange rate's natural log, and finally, *LNFDI* as the net-foreign direct investments' natural log. Explanatory variables were consecutively held for employment in the construction the same in each of the employment equations. The white noise error term was depicted by e_t , while the series $\beta_i, \delta_i, \sigma_i, \gamma_i$ represented the short-run coefficients of the dependent and independent series, and the relationships in long-run coefficients were denoted by $\eta_1 \dots \eta_4$.

Moreover, Equation 1 was subsequently estimated in estimating co-integration tests for employment in each sector according to the hypotheses below:

- $H_0: \eta_1 = \eta_2 = \eta_3 = \eta_4 = 0$ (As the null; long-run co-integration does not exist)
- $H_1: \eta_1 \neq \eta_2 \neq \eta_3 \neq \eta_4 \neq 0$ (As the alternative; long-run cointegration exists)

Based on the null hypothesis), no co-integration exists between the series. Pesaran's et al. (2001) bounds test is executed by comparing the F-statistic value to the lower bounds and upper bounds critical values. A greater F-statistic than the upper bound critical value suggests existing co-integration, thus favouring the alternative hypothesis while rejecting the null, while a lower value suggests an absence of co-integration and the null is accepted. Inconclusive estimations are suggested by an F-statistic value that lies between the lower and upper bounds (Dube & Zhou, 2013).

Empirical estimations

For respective empirical estimations, the study incorporated time series variables as summarized in Appendix 1. As can be seen from the descriptive statistics in Appendix 2, South Africa's trade openness is shown to have increased immensely over the quarterly sample period 1995Q1 to 2021Q1. Having shown an average of about 53.26 per cent of the share in export and import activities in the country's gross domestic product (GDP). The maximum and lowest share of trade activities in GDP

were estimated to be 60.86 per cent and 44.99 per cent, respectively. The increase in trade exposure is also supported by increased foreign direct investment having shown an average of about R8405.17 million for the sample period, and a maximum of about R52712 million, however, having accounted for liabilities of -R13910 million. Further characteristics of the descriptive nature of the dataset are shown in Appendix 2.

Preliminary estimations involved the analysis of correlation relationships between employment in each non-tradable sector and the considered trade environment's independent variables. Table 1 of the output of the pairwise correlation revealed statistically significant p-values for employment in the construction sector with trade openness at 1 per cent, while the correlation with foreign direct investment and the real effective exchange rate was non-significant in light of their respective p-values. For employment in financial institutions, the series was found to have had a statistically significant correlation with foreign direct investment and trade openness, being positive for the former and negative for the latter. This was also the case for employment in the wholesale and retail trade sector, having shown a statistically significant positive correlation with foreign direct investment and a negative correlation with trade openness.

Table 1. Pairwise correlation analysis

	Employment in construction	Employment in financial institutions	Employment in wholesale & retail trade
Foreign direct investment	(0.0726) [0.4615]	(0.3897) [0.0000] **	(0.3764) [0.0001] **
Real effective exchange rate	(-0.0879) [0.3721]	-0.0824) [0.4036]	(0.0199) [0.8405]
Trade openness	(-0.3234) [0.0008]**	(-0.6546) [0.0000] **	(-0.6197) [0.0000] **

Notes: () denotes correlation coefficient, [] denotes P-value,
& ** denotes significant at 1 percent.

Source: author compilation

Indicated in Table 2 is a summary of the variable representations upon transforming the considered explanatory and dependent variables in their natural logarithmic form. From here on, all series were discussed in reference to their respective representations.

Table 2. Representation of variables

Variables in their natural logs	Representation
Dependent variables	
Log of employment in the construction sector	LECONS
Log of employment in the finance sector	LEFIN
Log of employment in wholesale & retail trade sector	LEWRT
Explanatory variables	
Log of net foreign direct investment (FDI)	LFDI
Log of the real effective exchange rate	LREXR
Log of trade openness	LTOPEN

Source: author compilation

Before estimating the ARDL model for each non-tradable sector, the study employed the Augmented Dickey-Fuller (ADF) test by Dickey & Fuller (1979) to ensure the stationarity of all data series or the absence of unit root to circumvent the likelihood of producing spurious results. Thereof, results of the ADF test are shown in Table 3. Accordingly, there was a clear rejection of the null hypothesis of the presence of unit root in favor of the alternative hypothesis of stationary series in all the dependent and independent variables. The variables LECONS and LEFIN were stationary at first difference, while the series LEWRT, LFDI, LREER and LTOPEN were all stationary at level, presenting a mixed order of integration. As such, the ARDL model was justified as a sufficient model in testing for co-integrating relationships between the dependent and independent variables.

Table 3. Augmented Dickey-Fuller (ADF) test results

Variables	Level				First Difference		Order of integration
	Includes intercept		Includes trend & intercept		Includes intercept		
	<i>t-stat</i>	<i>P-value</i>	<i>t-stat</i>	<i>P-value</i>	<i>t-stat</i>	<i>P-value</i>	
LECONS	-2.121	0.2371	-2.099	0.5396	-3.593	0.0075***	I(1)
LEFIN	-2.856	0.0541	-3.036	0.1277	-7.399	0.0000***	I(1)
LEWRT	-3.225	0.0213**	-1.237	0.8970	-5.342	0.0000	I(0)
LFDI	-10.459	0.0000***	-10.458	0.0000	-8.969	0.0000	I(0)
LREER	-10.027	0.0000***	-10.041	0.0000	-12.973	0.0000	I(0)
LTOPEN	-3.0307	0.0353**	-3.1526	0.1000	-11.039	0.0000	I(0)

Note: *** and ** indicates significance levels at 0.01 and 0.05, respectively

Source: author compilation

According to Pesaran et al. (1999), optimal lag selection corrects the errors and issues of serial correlation and endogeneity in the ARDL model. To project co-integrating relationships between variables, the following models specified in Table 4 were executed for the three employment equations in the non-tradable sectors using STATA. Estimations of the R-Squared for each of the three models confirmed that South Africa's trade factors such as trade openness, FDI and the real effective exchange rate could explain extreme variations in employment for the considered non-tradable sectors. The chosen lags were identified according to the optimal lag specifications concerning model stability and robustness in testing for short-run and long-run co-integration. This meant selecting homoscedastic models which were free from heteroscedasticity and serial correlation. Values of R-squared reinforced that FDI, trade openness, and the real effective exchange rate were key explanatory variables that elucidated the variabilities in non-tradable sector employment levels. In estimating the ARDL output for employment in the construction sector, the model $LECONS_{eq.1}$ included a trend variable (Date) from the study's date series, including two dummy variables as exogenous variables or fixed regressors, encoded as "decon" and "dreer". Both the dummy variables and the trend variable were found to be significant contributors to model stability and robustness indicated by their statistically significant p-values.

Table 4. Model specification

Variable	Selected model	Trend specification	R-Squared
$LECONS_{eq.1}$	4 0 0 0 0	Rest. constant	0.3835
$LEFIN_{eq.2}$	3 1 5 0	Rest. constant	0.3792
$LEWRT_{eq.3}$	2 3 2 2	Rest. constant	0.2696

Source: author compilation

Moreover, a prerequisite to producing robust model estimations is that the estimated models meet the stochastic processes through residual diagnostics to avoid econometric output errors which violate the classical linear model assumptions (Takaendesa, 2006:100). The study was necessitated to conduct post-estimation diagnostics, namely; Breusch-Godfrey's LM test for autocorrelation, and White's test for heteroscedasticity, including the skewness and kurtosis normality test

(Breusch, 1978; Godfrey, 1978; Gujarati & Porter, 2008). Table 5 exhibits post-estimation diagnostic results which revealed that the executed models passed all tests for serial correlation, heteroscedasticity, and normality tests. For the models; $LECONS_{eq.1}$, $LEFIN_{eq.2}$ and $LEWRT_{eq.3}$, the p-values were more than 0.05 significance level for the Breusch-Godfrey LM test and White's test. Thereby, accepting the null hypothesis of no serial correlation and heteroscedasticity, respectively. Normality test results of the Skewness and Kurtosis test (sktest) also confirmed that the three models were normally distributed as indicated by the p-values which were above the 0.05 significance level in favour of the null hypothesis.

Table 5. Residual diagnostics of selected models

	Breusch-Godfrey LM Test	White's Test	Normality Test (sktest)
	H_0 = No serial correlation	H_0 = No heteroscedasticity	H_0 = Normally distributed
(Eq.1) LECONS	(0.8298)	(0.7421)	(0.1262)
(Eq.2) LEFIN	(0.2846)	(0.2752)	(0.3760)
(Eq.3) LEWRT	(0.8278)	(0.2225)	(0.2054)

Note: () indicates the P-value, * and **denotes significant at 5% and 1% respectively.

Source: author compilation

Long-run results of the Bounds test to cointegration

The ARDL model by Pesaran et al. (2001) is characterised by the estimation of the long-run cointegrating relationships via the bounds test, followed by the execution of error correction model adjustments together with short-run and long-run coefficients concerning the established models. Results of the ARDL bounds tests' long-run estimations in Table 6 revealed that the F-statistic values of the models; $LECONS_{eq.1}$ (6.345), $LEFIN_{eq.2}$ (9.028) and $LEWRT_{eq.3}$ (4.996) were above the projected lower and upper bounds critical values. This enforced the rejection of the null hypothesis of no cointegration for all models at 1 per cent and 5 per cent for some. This evidence permitted the conclusion of existing long-run cointegrations between the log of employment in the

construction sector, employment in the finance sector, and employment in the wholesale and retail trade sectors, with the log of FDI, the log of the real effective exchange rate and the log of trade openness.

Table 6. Bounds test to cointegration results: Long-run relationship

Estimated models	F-Stat	I0 Bound	I0 Bound	Outcome
Non-Tradable sectors				
(Eq.1) $F_{LECONS}(LECONS/LNFDI, LREXR, LTOPEN)$	6.345**	3.25	4.46	Cointegration
(Eq.2) $F_{LEFIN}(LEFIN/LNFDI, LREXR, LTOPEN)$	9.028***	4.455	5.875	Cointegration
(Eq.3) $F_{LEWRT}(LEWRT/LNFDI, LREXR, LTOPEN)$	4.996**	3.264	4.474	Cointegration

Note: *** and ** denote significant at 1 per cent and 5 per cent, respectively.

Source: author compilation

Findings of the Error-Correction Model, and the short-and-long-run coefficients

The establishment of the long-run cointegration presented by the F-statistics model called for the estimation of the error correction model (ECM), to exhibit the correction from disequilibrium in the earlier period towards long-run equilibrium (Brooks, 2014). Where the dependent variables' variations are a function of the disequilibrium projected by the established cointegrating relationships and the independent variables' variations (Bhattacharya, 2011:39). The adjustment requires that the error correction term (ECT) of the ECM is negative with a significant p-value, where short-run deviations are equilibrated by the error term (Gujarati & Porter, 2008; Mukhtar & Rasheed, 2010). Tables 9, 10 and 11 of the Appendix report findings of the ARDL model's ECT in the ECM, with the ECT's respective adjustment coefficient, denoted as "adj" and the corresponding p-values. The study established that the ECM was statistically significant for all the models with p-values below 0.05 significance level, and the ECT was negative for all the models. Such that, the models; $LECONS_{eq.1}$, $LEFIN_{eq.2}$ and $LEWRT_{eq.3}$ respectively had negative values of -0.1029, -0.1003 and -0.0460 as the ECTs, with the p-

values 0.000, 0.000 and 0.001. These findings revealed clear disequilibrium adjustments towards long-run equilibrium for employment in the construction sector, employment in the finance sector and employment in the wholesale and retail trade sector. Such that, disequilibrium or departures were individually corrected at an error correction speed of approximately 10.3 per cent, 10.0 per cent and 4.6 per cent in each quarter in reaching the long-run equilibrium for the models; $LECONS_{eq.1}$, $LEFIN_{eq.2}$ and $LEWRT_{eq.3}$, respectively.

Having established the existence of long-run relationships using the F-statistics, and the existence of significant short-term adjustments towards long-run equilibrium based on the ECM, parameters of the long-run estimations provided additional information on the potential negative or positive relationships of the considered regressors and regressands. For employment in the construction sector, Appendix 3 revealed that employment in the construction sector had a negative and statistically significant long-run and short-run relationship with trade openness, where a one per cent increase (decrease) in the log of trade openness resulted in a decrease (increase) in the log of employment in the construction sector by 2.36 per cent and 0.2429 per cent respectively in the long-run and the short-run. Further coinciding with findings of the correlations analysis of a negative relationship between trade openness and employment in the construction sector. Both the long-run and short-run parameters of LTOPEN were statistically significant at 0.01 significance level. Subsequently, the parameters of LECONS with LFDI and LREER were not significant in the long run. However, short-run estimates suggested that the log of employment in the construction sector had a positive and significant relationship with the log of the real effective exchange rate. Such that, a one per cent increase (decrease) in the log of the real effective exchange rate was associated with an increase (decrease) in the log of employment in the construction sector by 0.0102 per cent, although this was only significant at 10 per cent significance level. Moreover, the parameters for LFDI were found to be non-significant in the short run.

Furthermore, Appendix 4 exhibited long-run and short-run parameters of employment in the finance sector and the respective independent variables. Results suggested that for the short-run, only LTOPEN was significant, and parameters for LFDI and LREER were non-

significant. It was suggested that the log of employment in the finance sector was negatively associated with the log of trade openness in the long run. Consistent with the negative and statistically significant correlation shown in Table 1 of the correlations output. Such that a one per cent increase (decrease) in the log of trade openness resulted in a 1.3196 per cent decrease (increase) in the log of employment in the finance sector, and was statistically significant at 0.01 significance level. However, in the short-run, no relationship was established between the log of employment in the finance sector and the log of trade openness. Short-run findings for the variable LFDI were non-significant, while the log of the real effective exchange rate displayed a statistically significant and negative short-run relationship with the log of employment in the finance sector. Such that, in the short-run, a one per cent appreciation (decrease) in the log of the real effective exchange rate is associated with a decrease (increase) in the log of employment in the finance sector by 0.0059 per cent, at 0.05 significance level. Despite being significant, this margin was found to be substantially low, and was non-significant in the correlations output albeit having also shown a negative correlation.

Lastly, Appendix 5 represented long-run and short-run findings of the log of employment in the wholesale and retail trade sector with the independent variables. Results revealed that in the long run, the parameters for LTOPEN were the only statistically significant coefficients, excluding the parameters for LFDI and LREER. Parameters for LTOPEN were negative and statistically significant at 0.05 significance level, consistent with the negative and statistically significant correlation established in the correlations output. Thus, implying that in the long run, a one per cent increase (decrease) in the log of trade openness was associated with a 1.6536 per cent decrease (increase) in the log of employment in the wholesale and retail trade sector. Moreover, short-run results indicated that only the parameters for LFDI and LREER were statistically significant, and non-significant for LTOPEN. However, short-run findings for LFDI and LREER were only significant at 10 per cent significance level. Suggesting that a one per cent increase (decrease) in the log of foreign direct investment, and a one per cent increase (decrease) in the log of the real effective exchange rate induces a decrease (increase) in the log of employment by 0.0057 per cent and 0.0050 per cent, respectively.

Discussions and conclusion

Based on the above findings, it is evident that trade-related factors such as trade openness, the real effective exchange rate and FDI have differing implications on South Africa's job creation dynamics within non-tradable sectors and may thus be sector-specific as noted by Itskhoki & Helpman (2015:1). Following Thurlow (2006:9), the implied trade openness induced loss of jobs in the wholesale and retail trade sector, including the finance sector, suggests that foreign competition resulting from an increase in South Africa's trade liberalisation endangers domestic jobs, particularly for the respective sectors within the long-run. However, the loss of jobs in these sectors would also imply that some of the jobs may not have simply been destroyed, but had been lost to either tradable or non-tradable productive sectors. This follows after the implied reallocation effects of foreign trade as highlighted by Itskhoki & Helpman (2015:1).

In light of South Africa's ever-increasing rate of unemployment, it is fair to note that the loss of jobs may not simply be due to the expansion or increased productivity of sectors such as the construction sector but as a result of distortions or inefficient economic policies. Meaning that positions for skilled or semi-skilled jobs may have rather been destroyed in the face of increased competition, than merely being absorbed by the construction sector due to an expansion in the latter. Further reiterating Thurlow's (2006:9) sentiments that the set trade policies may be countering the country's development objectives. To amass the trade benefits of globalisation in the finance sector, and the wholesale and retail trade sectors, Jansen et al. (2011:9) prompts that economies require efficiently run and smoother markets, as in the case for developed countries, to allow markets that may adapt well to survive.

Nevertheless, findings on employment in the non-tradable sectors and the real effective exchange rate are in contrast to the assertions by Gourinchas (1998:168) who noted that non-tradable jobs are unresponsive to exchange rate movements. The present study revealed that appreciations in the real effective exchange rate of the Rand appeared to have been an aiding factor in securing job creation for sectors such as the construction sector, including the wholesale and retail trade sector. However, such

assertions may not hold considering no causality tests were conducted. The appreciation in the real effective exchange rate of the Rand and the corresponding jobs increase in the constructions sector and the wholesale and retail trade sector may be due to Faggio and Overman's (2014:93) proposition that the appreciation in the real effective exchange rate may be coinciding with an increase in the domestic wages and employment, in this case, for the former and latter sectors. Under the condition that supply is perfectly elastic or inelastic. On the one hand, an appreciation in South Africa's real effective exchange rate is suggested to counteract the country's job creation efforts.

Lastly, among all the considered trade-related factors, FDI had the least significance in explaining variations in job creation for all non-tradable sectors within the long run, having displayed non-significant long-run relationships, contrary to Wei's (2013:52) findings. Also, short-run relationships between FDI and job creation were not significant for the finance sector and the construction sector. Tshepo (2014:18) purports that the flow of FDI may be inhibited by an increase in corruption. However, FDI only displayed a significant relationship with employment in the wholesale and retail trade sector, this relationship was found to be positive. Further suggests that an increase in FDI inflows induces an increase in job creation in the former sector. Karlsson et al. (2007:1) associate such a relationship as a likely result of firm characteristics such as the wholesale and retail trade sector's accessibility to export markets. Trade liberalisation affects South Africa's job market within the non-tradable sector either directly or indirectly. Therefore, there is a dire need for effective policies tailored towards boosting each industry's competitiveness and productivity, as results revealed that nontradable industries are characterised by idiosyncratic features which require tailored boosting strategies. To allow for smoother domestic market adjustments, it may also be beneficial to alleviate factors that prevent the efficient reallocation of production factors such as labour to promote the matching of skills in applicable sectors. Especially in light of South Africa's unemployment rate which is partly considered to be structural.

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Appendix 1: List of variables considered

Dependent or response variables	Independent or explanatory variables
Employment in the construction sector	Foreign direct investment
Employment in the finance sector	Real effective exchange rate
Employment in the wholesale and retail trade sector	Trade Openness [(Imports + Exports)/GDP]

Source: author compilation

Appendix 2: Descriptive statistics

	Employment in construction (Index)	Employment in finance (Index)	Employment in Wholesale and retail trade (Index)	Net-FDI (Millions)	Real effective exchange rate (Index)	Trade openness [(X+M)/GDP]
Mean	98.97429	99.0581	95.87048	8405.17	-0.08708	0.532555
Median	101.7	100.6	100.5	5051	0.39137	0.535808
Maximum	128.5	109.6	113.3	52712	13.4681	0.608591
Minimum	75.2	79.3	67.6	-13910	-15.1705	0.44993
Std. Dev.	12.8864	7.16515	12.66908	11648.6	5.07379	0.032625
Skewness	-0.25322	-0.487464	-0.795792	1.37157	-0.34142	0.096692
Kurtosis	2.183656	2.441848	2.569957	5.76634	3.83978	2.51399
Jarque-Bera	4.037689	5.521335	11.89159	66.4014	5.12528	1.197013
Probability	0.132809	0.06325	0.002617	0	0.07710	0.549632
Obs	105	105	105	105	105	105

Source: author compilation

Appendix 3: Long-run & short-run results of employment in the construction sector

$LECONS_{eq,1}$		Coef.	Std.Err.	t	P>t			Coef.	Std.Err.	t	P>t
ADJ	L1.	-0.1029	0.0250	-4.11	0.000						
LR	lfdi	0.0109	0.0297	0.37	0.716	SR	lfdi	0.0011	0.0031	0.36	0.717
	lreer	0.0994	0.0613	1.62	0.109		lreer	0.0102	0.0059	1.74	0.086
	ltopen	-					ltopen	-0.2429	0.0633	-3.84	0.000
	ltopen	2.3600	0.6405	-3.68	0.000		ltopen	-0.2429	0.0633	-3.84	0.000
	decon	-0.4827	0.1779	-2.71	0.008		decon	-0.0497	0.0169	-2.95	0.004
							dreer	-0.0400	0.0171	-2.34	0.022

$LECONS_{eq.1}$		Coef.	Std.Err.	t	P>t			Coef.	Std.Err.	t	P>t
							Date	-0.0003	0.0001	-2.98	0.004
							_cons	0.6029	0.1383	4.36	0.000

Source: author compilation

Appendix 4: Long-run & short-run results of employment in the finance sector

$LEFIN_{eq.2}$		Coef.	Std.Err.	t	P>t			Coef.	Std.Err.	t	P>t
ADJ	L1.	-0.1003	0.0232	-4.32	0.000						
LR	lfdi	-0.0018	0.0202	-0.09	0.929	SR	lefin LD.	-0.0319	0.1019	-0.31	0.755
	lreer	0.1154	0.0784	1.47	0.145		lfdi D1.	0.0001	0.0014	0.04	0.967
	ltopen	-1.3196	0.2639	-5.00	0.000		lreer L4D.	-0.0059	0.0025	-2.35	0.021
							_cons	0.5162	0.1219	4.24	0.000

Source: author compilation

Appendix 5: Long-run & short-run results of employment in the wholesale and retail trade sector

$LEWRT_{eq.3}$		Coef.	Std.Err.	t	P>t			Coef.	Std.Err.	t	P>t
ADJ		- 0.0460	0.0139	-3.29	0.001						
LR	lfdi	- 0.1435	0.0976	-1.47	0.145	SR	lewrt LD.	-0.0769	0.1009	-0.76	0.448
	reer	- 0.0692	0.1189	-0.58	0.562		Lfdi D1.	0.0057	0.0029	1.89	0.062
	open	- 1.6536	0.5167	-3.20	0.002		lreer LD.	0.0050	0.0027	1.84	0.070
							ltopen D1.	-0.0298	0.0459	-0.65	0.518
							_cons	0.3356	0.0776	4.32	0.000

Source: author compilation

WORK PLACE INFLUENCE ON PURCHASE BEHAVIOR OF PET FOOD PRODUCTS IN THE PANDEMIC PERIOD

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ABSTRACT. The pet food industry faced changes recently determining important market growth. During the COVID-19 pandemic the pets' popularity increased as many people wanted to adopt or buy a pet during this period. Also, in respect with the workplace, the COVID-19 pandemic divided the pets' owners in those who worked from home or hybrid and those who worked from the workplace. The main goals of the research are to analyze the factors that pet owners consider when they are purchasing pet food products, and the budget allocated for pet food products according to how pets' owners worked in this period. Based on descriptive research, the study revealed that those who worked from home/ hybrid during the pandemic period put more emphasis on product quality and brand awareness and less on price. Those who have worked at workplace more emphasis on price and less on the quality of pet food.

Keywords: pet food, work, purchasing behavior, COVID-19 pandemic, Romania

JEL classification: M31, L67, D91

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Introduction

Pets occupy an increasingly important place in people's lives in most countries. With the increasing presence of pets in human lives, the industry responsible for pet food and pet care has also developed. The global pet food market is expected to grow to \$75.29 billion in 2021 and the trend of growth is also expected to remain in 2022. So the pet food industry is an important pillar in more and more economies around the world (Alexander et al, 2020).

The pet food industry has seen several changes recently which have led to increasing market growth. The main factors that determined the positive evolution of the pet food market are: the rising incomes of the population, the growing popularity of pets, especially among the younger generation, and more generally the urbanization of the population (Alexander et al., 2020). Another important factor that has contributed in recent years to the pet food market growth is the tendency of people to humanize pets more and more (FEDIAF, 2022). The humanization of pet animals continues to be increasing, in particular because the popularity of animals is increasing among the Millennials and Z Generations, but also because more and more pet owners spend more time at home.

During the COVID-19 pandemic period the popularity of pets was increased, and many people wanted to adopt or buy a pet during this period. In this period of pandemic people have experienced many changes and restrictions that have made them change their behavior (Stanciu S. et al., 2020). With these changes, new consumers of pet food products have emerged on the market and thus behavior and certain trends from the market have changed (Ho et al., 2021).

Given the expansion of the pet food market in recent years, there is a growing concern to analyze consumer pet food preferences, but the current literature is still quite weak in this regard. The COVID-19 pandemic

divided the consumers in two segments: those who have worked from home or hybrid and those who have worked from the workplace (Russell J., et al. 2021). These aspects and the continuing trend toward the growth of the pet food market during the pandemic make analysis of the pet food market more exciting and provide a challenge for research in the field.

The central aim of the research is to analyze the buying behavior of pet owners throughout the pandemic period. The main objectives of the present study are: O1. Analysis of the factors that pet owners consider when they are purchasing pet food products, based on how they worked during the pandemic (work from home/ hybrid or from at the workplace). O2. Analysis of the budget allocated by pet owners for pet food products according to how they worked (worked from home/ hybrid or from at the workplace). For this purpose, the authors developed the following research questions: RQ1. For those who worked from home or in a hybrid system during the pandemic period, compared to those who worked from the workplace, the price factor of pet food products had of different importance? RQ2. Had the quality factor of pet food products of different importance to those who worked from home or in hybrid systems than those who worked from the workplace in the pandemic period? RQ3. For those who worked from home or hybrid the brand awareness of pet food products had of different importance than those who worked from the workplace in the pandemic period? RQ4. Was the delivery time of pet food products of different importance to those who worked from home or hybrid than those who worked from the workplace in the pandemic period? RQ5. Were promotion campaigns on pet food products from the pandemic period of different impact for those who worked from home or hybrid than those who worked from the workplace? RQ6. Did those who worked from home or on a hybrid system during the pandemic period allocate a different budget for pet food products than those who worked from the workplace?

Review of Literature

In 2010 the pet food industry was worth \$59.3 billion (Hoobs and Shanoyan, 2018). The latest figures showing the size of the global pet food market are officially registered in 2020 when the pet food industry

was worth \$72.07 billion in revenues (Research and Markets, 2021). In 2021, the global pet food market is expected to grow to \$75.29 billion, an increase of more than 4% (Research and Markets, 2021).

This pet food industry is segmented by specialists according to some important criteria: animal type, product type, ingredient type, sales channel and by geography (Mordor Intelligence, 2021). The first market segmentation criterion gives us an overview of the pet food market by dividing the market into dog, cat, and small pet food. The largest segment is dog food, which is estimated to represent about 60% of the whole pet food market. The next important segment is cat food, which accounts for about 35% of the total market (Hoobs and Shanoyan, 2018). In terms of product types the pet food market is divided into: dry food, wet food, veterinary diets, treats and snacks and organic products (Mordor Intelligence, 2021). The dry food category is the most sold product (over 90% from the total market) for both main segments (dog and cat food), as it provides both comfort, lower prices and better storage capacities than wet food; all are the factors consumers seem to value most (Hoobs and Shanoyan, 2018).

In terms of geographic market segmentation, the largest market is North America, which accounted of around 38% of the total pet food market in 2020. It is followed by Western Europe, which was about 22% of the total market in 2020 (Research and Markets, 2021). At European level, the leader is Germany, followed by the UK, France, Italy, Spain and then the rest of Europe representing much lower percentages (Hoobs and Shanoyan, 2018; Mordor Intelligence, 2021).

The trend of humanizing pets, especially dogs and cats (owners giving their pets human characteristics, such as looking at the pets as part of their family or even as children) has led to an increase in certain types of products in recent years. (Kumcu & Woolverton, 2015). Complex relationships typically exist between owners and their pets, especially in terms of feeding behavior, with the owner's affection or love for their pet most pronounced by providing food (White et al., 2016; Morgan et al., 2020). For example: In 2020 alone, organic pet food reached \$22.8 billion in sales (FEDIAF, 2022). Another aspect that shows that people are trying to humanize pets more and more is the growing demand for certain diets such as BARF diet (new attributes in this field) and other food supplements

(Handl & Ecvcn, 2014). Also another trend that has grown in recent years, especially as regards dog feeding, are the sort of grain-free or gluten-free food (Banton, Baynham, Pezzali, Von Massow, & Shoveller, 2021). In the human food industry, there has been a trend for all sorts of such foods from which are increasingly inspired and the pet food (Boya, Michael, Dotson, 2015).

This trend of humanizing animals is primarily the fact that more young people hold a pet animal and they have a different view in terms of care for pets. Studies in recent years have shown that the Millennials generation currently holds about 32% of all pets (<https://petkeen.com/pet-food-statistics-trends>; FEDIAF, 2022).

Also, people's easier access to information, but also their increasing interest in feeding their pets with quality food, is another factor of the pet food market growth. Nowadays, pet food buyers have access to numerous sources of information about their pet's nutrition. Information can be obtained from veterinarians, the Internet, animal trainers, pet store employees, pet nutrition books, pet company websites, or other owners of pets, even if this information does not always come from reliable sources (Vinassa et al., 2020). Another survey conducted on a sample of 93% women out of a total of 2181 respondents concluded that the most used source of information on choosing pet food is veterinarians (40%), followed by the Internet (24%). (Schleicher et al. 2019).

Pets today play a particularly important role, both in terms of people's mental well-being and in terms of the economy (Rombach & Dean, 2021). Many people need pets to relieve their anxiety or loneliness, but there are some people who depend on pets. (e.g. utility dogs). From the economic point of view, pet animals generate income primarily for farmers or traders selling pet animals, but in particular the expenses and income generated by food and other pet products, which represent significant sums in the economy. In the USA, for example, the average annual budget people allocate strictly for pet food is between \$254 and \$287 (Chen, Hung, 2012; Rombach and Dean, 2021).

When deciding on the types of feed for their pet animals, but also when deciding on quality or other aspects, it has generally been found that women are more concerned about these details (Hoobs and Shanoyan, 2018; Rombach and Dean, 2021).

In Romania a study carried out by the Romanian Association of Pet Food Producers (ARPAC) in 2020, that is in the pandemic period, shows the behavior of the owners of pets in the urban environment. The results indicated that the main motive for buying a pet is emotional. 66% of pet owners have a dog, the majority, medium and small and 58% own a cat. From the investigated urban owners, 17% of dog owners and 16% of cat owners got the pet during the state of emergency. Regarding food, 43% of dog owners and 57% of cat owners declared that they feed their pet exclusively on pre-packaged food, purchased from stores. The main sources of acquisition are supermarkets/ hypermarkets, chains of pet stores or nearby pet stores (ARPAC, 2020).

The literature clearly shows us a trend toward the global pet food market growth even in the pandemic period. During this period, several factors have contributed significantly to maintaining this growing trend of the pet food market, to the development of business on the online side mainly due to the imposition of restrictions by the authorities (Sayyida, et al., 2021). Once certain traffic restrictions were imposed in the pandemic period, industry companies have increasingly focused on the online environment and have developed some home delivery services (Sheth, et al. 2020) (Kwak and Cha, 2021).

Another important factor that has contributed to the pet food market growth in the pandemic period was the increase in the number of pet adoption especially among those who spent more time at home (Morgan et al., 2020). The increase in adoption or purchase of pet animals also resulted from the fact that many people worked from home or in hybrid schemes during the pandemic period. According to a study carried out in Romania by E&Y in 2020, during the emergency period around 60% of respondents worked from home or hybrid. (Ernst & Young, 2020). Once time with this major change in work, several people had more time off, which made some of them want a pet (Maryati T., 2020).

Also, the same study by E&Y shows that respondents increased spending on food by around 21% (where the pet food products are included) (Ernst&Young, 2020).

One of the main factors that led to changes in individuals' purchasing behavior in pandemic period is home work or hybrid work (Applebaum, Tomlinson, Matijczak, McDonald, & Zsembik, 2020). Working

at home has brought several changes to the lives, habits and working patterns of many employees, and many studies showed us that the market was divided into two segments of consumers: those who have worked from home / hybrid and those who have worked from the workplace, in this period. (Ștefan, 2021).

Another important aspect which has led to the trend of increasing demand for pet products, especially among those who have worked from home, was their income (Reema S. et al., 2021). Studies have showed that the segment of those who have worked from home or hybrid in the pandemic period, they have had higher incomes compared to those who have worked from the workplace during this period (Ștefan, 2021).

Materials and methods

The main purpose of the research is to analyze the buying behavior of pet owners throughout the pandemic. In this respect, we conducted an online interview. A self-administrated questionnaire, composed of 23 questions was implemented on Facebook groups related to pets.

The questionnaire was shared online in 51 different Facebook groups of Romanian pet owners: 25 mixed groups (groups with dog and cat owners), 20 groups of dogs (groups that predominantly had members who were dog owners) and 6 groups of cats (groups that predominantly had members who were cat owners). The questionnaire was anonymous and was kept active between 20.11.2021 and 3.12.2021. 1,525 people answered, owners of dogs, cats and other pets, 99.28% of respondents live in Romania and 0.72% live outside Romania.

In this paper, descriptive research was used analyzing the pet owners buying behavior in Romania, especially those who own dogs and cats. The data analyzed in the questionnaire include demographic characteristics of the respondents and variables related to the consumer's intention and purchasing behavior during the pandemic. Demographics described their age, gender, education, marital status, monthly income, type of work during COVID-19 and where they live.

The answers to the questions were presented as relative frequencies and IBM SPSS software version 25 (IBM Corp., Armonk, NY, USA) was used for the statistical analysis.

Results and discussions

Regarding the demographic characteristics of the sample, more than half of the respondents are between 18 and 36 years old (51.15%). In terms of gender, the sample is dominated by women (91.67%). More than 75% of respondents have university education and more. Half of the respondents have an income of less than 4000 lei (around 800 EURO/month), and over 60% of them do not have children. The majority live in cities with less than 200,000 inhabitants, all of them are Romanian, but they live in different cities in the country and abroad (Table 1).

Of the total number of respondents, 79.4% have dogs. A percentage of 26.7 of them are pet owners as of 2020 and almost 10% of them have their pet starting with the lockdown. In respect with how the respondents have their pet, 40% of them are adopted and 31.34% were adopted during the pandemic.

Table 1. Demographic characteristics of the sample

Category	Items	%
age	under 18	0.33%
	18-36	51.15%
	37-55	44.00%
	58-75	4.52%
studies	Elementary	1.18%
	Highschool	16.72%
	Post-high school	6.23%
	University	43.80%
	Master	23.74%
	Post-university	8.33%
income	<2.000 lei	11.21%
	2000-4000	39.48%
	4000-6000	25.84%
	6000-8000	10.82%
	8000-10000	5.31%
	>10000	7.34%
relations	Single	20.98%
	In a relationship, without children	43.34%
	In a relationship, with children	35.67%
work	Remote work	30.56%
	From work	37.05%
	Hybrid	20.33%
	Not working	12.07%

Category	Items	%
residence	Principle city (> 200,000 residents)	11.74%
	Secondary city (<200,000)	87.54%
	Other country than Romania	0.72%
gender	Female	91.67%
	Male	8.33%

Source: Analysis performed by authors

The research analyzed in the first stage the factors that influence the most in the purchase decision of the two segments, those who worked from home/ hybrid and those who worked from workplace during the pandemic. The factors considered for this analysis were: price, quality, brand awareness, delivery terms and promotions.

Price

The “price” factor was considered an important, often decisive factor in the purchasing decision for many consumers of pet food products. As for the two segments, those who worked during the pandemic period at home/ hybrid and those who worked from the workplace, as shown in Figure 1, there is no significant association.

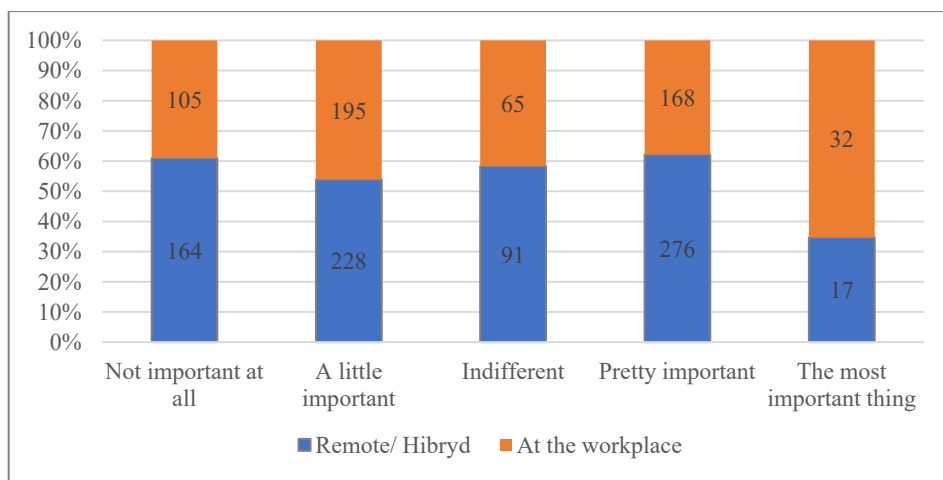


Figure 1. The importance of the price factor depending on the method of working the sample

Source: Analysis performed by authors

However, those who worked in the remote system (from home) or those who worked in the hybrid system during the pandemic period were less influenced by this factor in their process of purchasing pet products. We can make this statement because, as can be seen on the graph in the extremities, a larger number of those who worked from home or hybrid considered the price factor important (164 said it was not important at all and 228 said it was of little importance; compared to 105 and 195 respondents in the segment of those who worked from home, respectively). Also, only 17 respondents in the remote/hybrid segment considered the price factor as the most important in the purchasing decision-making process (compared to 32 respondents in the group of those who worked from home and who considered this factor to be the most important). One explanation for this is that the income of those who worked from home or hybrid is usually higher than the income of those who work only from work, as other studies show (Al, 2021). Studies have shown that most of the time the segment represented by those who worked from home or hybrid during the pandemic had higher incomes compared to those who worked from work during this period (Ștefan, 2021).

Quality

Another factor whose importance was analyzed in the decision-making process of buying was the factor - "quality". The importance of this factor for the two segments was shown in Figure 2.

As can be noticed, this is a decisive factor for the segment of those who worked from home or hybrid during the pandemic period. Instead, those who worked from work took less account of this factor when they had to make choices about purchasing products for their pets. There is a significant association between the job (at home or hybrid and the workplace) and the list of ingredients, that determine the quality of the products (important/unimportant). The statistical analysis found that this factor (product quality) is 14.9 times more important for those who worked from home/hybrid than those who worked from work during the pandemic period.

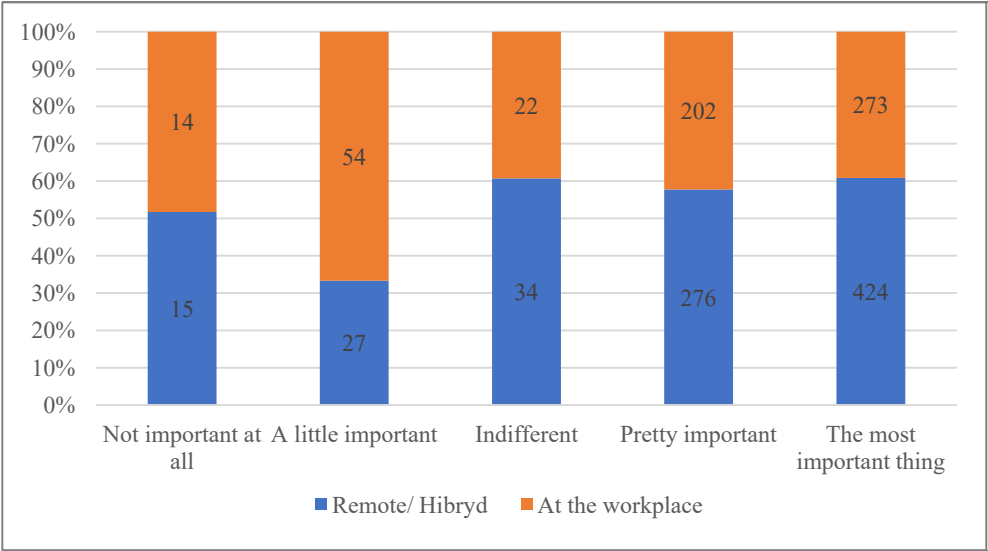


Figure 2. The importance of the quality factor depending on the way the sample is working

Source: Analysis performed by authors

Brand awareness

“Brand awareness” is an increasingly important factor for many consumers in the pet food market in recent years (Alexander et al, 2020).

The study revealed a greater interest in this factor for the segment of those who worked from home or in a hybrid system during the pandemic period and less decisive for those who worked from work.

Regarding brand awareness, there is a significant association between work (at home or hybrid and at work) and brand awareness (important/ unimportant). For those who worked from home/hybrid, the “brand awareness” factor is 6.32 times more important than others in the segment of those who worked from work during the pandemic period.

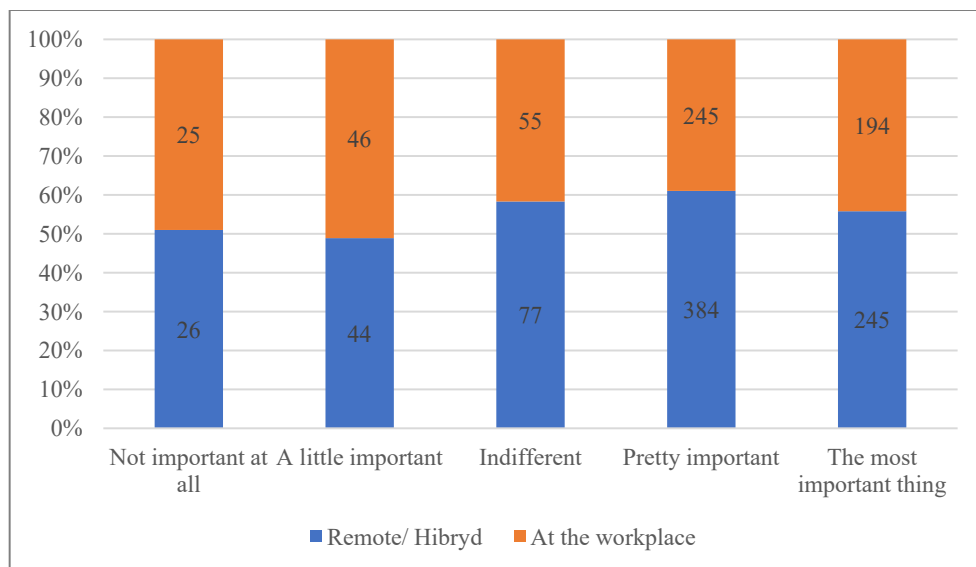


Figure 3. The importance of the brand's notoriety factor depending on the way the sample works

Source: Analysis performed by authors

Delivery conditions

Another important factor that became almost indispensable during the pandemic period, was the home "delivery service" of pet products. Regarding the two segments and their preference for accessing this service from the analyzed sample data, it resulted that there is no significant association between the job (remote/ hybrid and workplace) and the "delivery conditions" (important/ unimportant). However, we can see from figure 4 that for the segment represented by those who worked from the workplace, this factor was considered a slightly more important element in their purchasing decision (100 respondents of those who worked from the workplace said it was the most important aspect, compared to 92 respondents in the other segment).

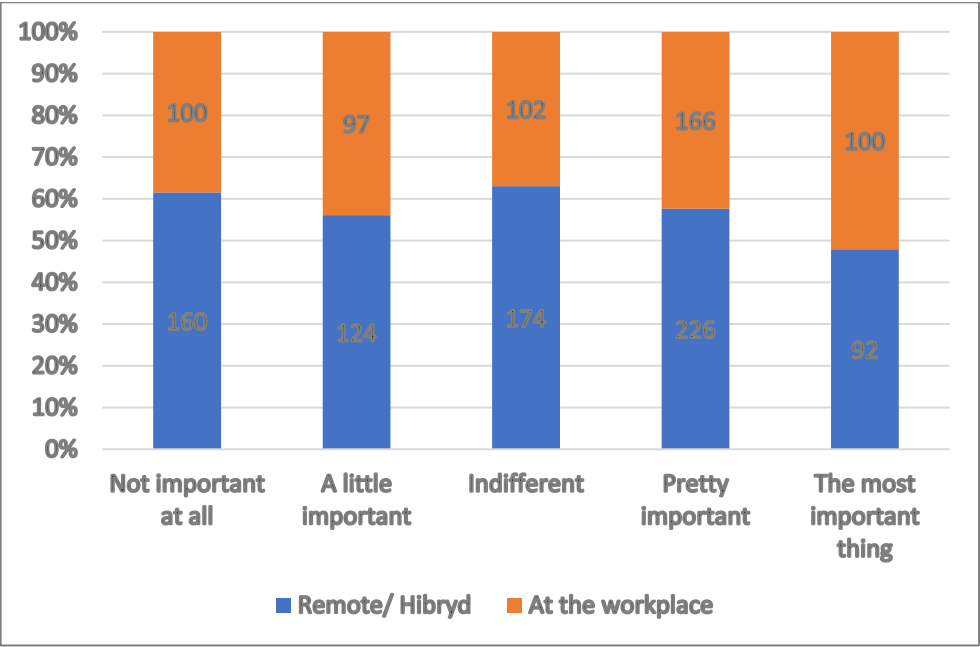


Figure 4. The importance of the delivery conditions factor depending on the method of working the sample
Source: Analysis performed by authors

Promotions

The last analyzed aspect was the “promotions” factor. This element was particularly preferred by the segment of those who worked from home/hybrid during the pandemic period and considered less important by those who worked from work during this period. These preferences in relation to this factor were shown in Figure 5.

Therefore, there is a significant association between the job (remote/ hybrid and workplace) and the promotions offered by the provider (important/ unimportant). For those who worked from home/ hybrid, the factor “promotion” is 1.2 times more important than the others in the group who worked from work during this period.

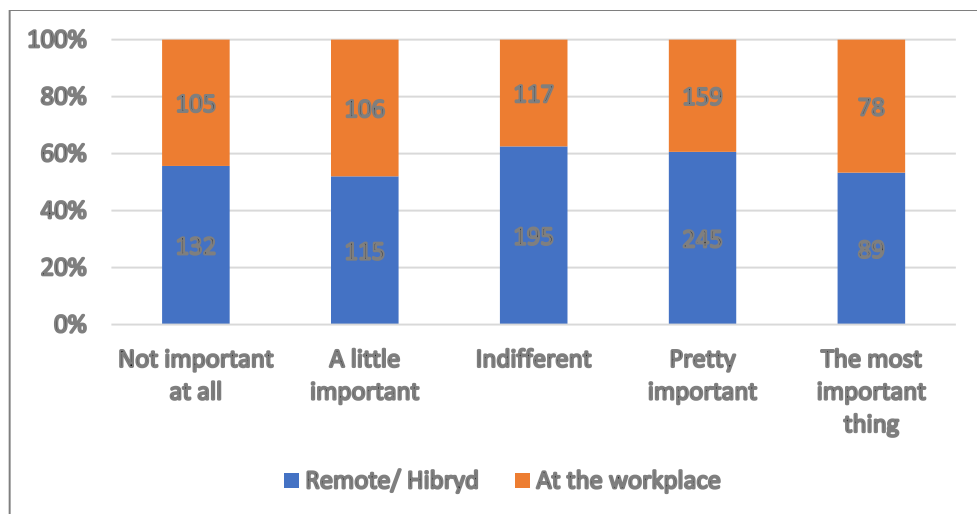


Figure 5. The importance of the promotion factor depending on how the sample works

Source: Analysis performed by authors

Budget

In the second phase of the research, we analyzed whether there is a link between the budget allocated by respondents to the purchase of pet products and modality of how they worked during the pandemic period. And for this analysis we divided the respondents into the same two segments, those who worked from home/ hybrid and those who worked from work during the COVID-19 pandemic.

We found from the statistical analysis that the responses were not statistically significant. However, we analyzed each threshold of the budget, depending on the modality of how the respondents worked (Figure 6).

Regarding the budget allocated by the two consumer segments, those who worked from home/ hybrid during the pandemic, allocated a little higher budget for pet food products. While those who worked at workplace during this period allocated a little smaller budget for pet food during the pandemic.

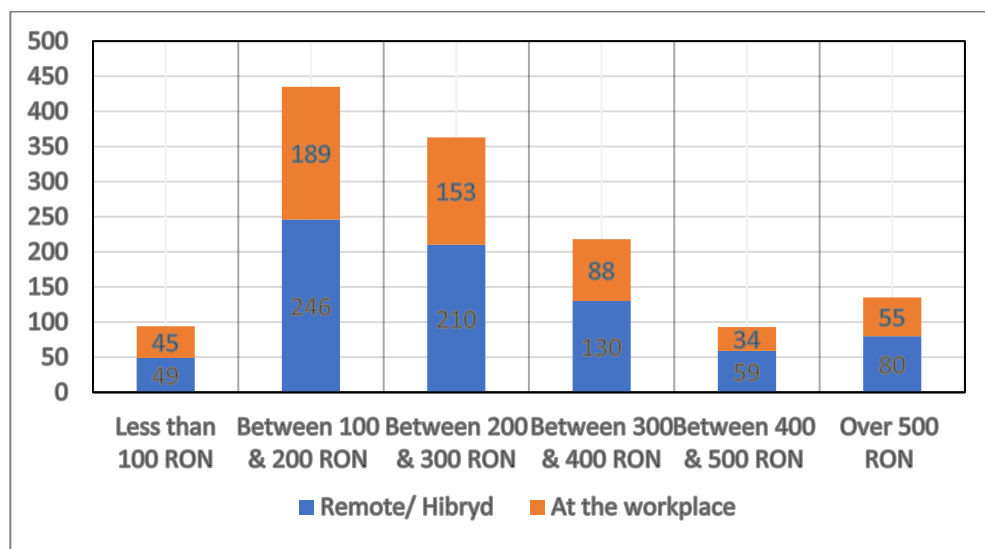


Figure 6. Budget allocated vs. how the respondents worked

Source: Analysis performed by authors

As a first element to be noted, the budget thresholds between 100 - 200 lei (around 20 - 40 Euro) and between 200 - 300 lei (around 40 - 60 Euro) recorded the biggest differences between the two segments. So, we can say that the average budget allocated by those who worked from home or hybrid during the pandemic, was between 100 and 300 lei, while the segment represented by those who worked from the workplace, they have allocated a lower budget of these thresholds. Another difference is also in the allocated of the budget range between 300 and 400 lei per month (around 60 - 80 Euro), where again there is a major difference in favor of the segment of those who worked from home or hybrid. The smallest difference between the two segments is at the range allocated budget of less than RON 100 per month, where the two segments are almost equal. Of course, we also noticed that the largest budget allocated by respondents, is also allocated by the same segment of those who worked from home or hybrid during the COVID-19 period. 80 of the respondents who worked from home/hybrid said they allocated a maximum budget (over 500 lei, around 100 Euro) for pet food during the pandemic period. While only 55 of the respondents who worked from workplace during the pandemic period said they had allocated the maximum budget for pet food.

Conclusions

The pet food market has an upward trend for many years now, reaching important figures in many countries in recent years. Although the annual percentage increase in developed countries is no longer high, because the market is already at a high level, in developing countries the pet food market is growing from one year to another, with high percentage increases in many cases. Thus, this market is of growing interest not only for existing players but also for new producers or retailers, and not least for consumers, because more and more individuals are planning to have a pet in the future.

With the pandemic period, there have been countless changes in the markets in general. the pet food market has also undergone several changes. Consumer behavior has changed a lot during the pandemic period and some aspects of these behavior changes have also remained modified after the elimination of restrictions caused by the COVID-19 pandemic. Some of these changes were due to government restrictions, but others were due to product crises, which led to massive impulse shopping. All these changes have led to the formation of new segments of consumers who have behaved differently. The research identified two new consumer segments, depending on how they worked during the pandemic period (those who worked from home/hybrid and those who worked from work). These new consumer segments behaved differently during the pandemic period.

As a first conclusion from the data analysis, it can be said that those who worked from home/ hybrid during the pandemic period put more emphasis on product quality and brand awareness and less on price. As a second conclusion, this is also reinforced by the fact that those who worked remote/ hybrid, spend larger budgets on the purchase of pet food. Those who have worked at work place more emphasis on price and less on the quality of pet food. This is also supported by the fact that, following the analysis of the data in the questionnaire, those who worked from the workplace stated that they allocate a smaller budget for pet products.

After analyzing the data obtained through the questionnaire, it was found that for those who worked from home / hybrid, factors such as quality, brand awareness and promotions were considered relatively decisive factors in the purchasing decision. For the other consumer segment, however, those who worked from work during the pandemic

period, factors such as “price” and “delivery conditions”, were slightly more important (even if not significantly more important) aspects of purchasing decision-making, to the detriment of factors such as “product quality”, “brand awareness” and “promotions”.

The current research revealed several changes in pet food buying behavior, as well as some differences between the two consumer segments. Once-formed segments have a real chance of staying that way, as many employers have not given up and do not want to give up the idea of giving employees the chance to work in a hybrid system or even exclusively from home.

The paper reviews the Romanian pet food market during the pandemic period. The study is relevant for retailers and pet food producers, veterinarians, but also for other people interested in the development of the pet food market during the COVID-19 pandemic.

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WHAT HAPPENS UNDER CRISIS: A COVID-19 PANDEMIC MATTER ABOUT SOCIAL ISOLATION

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ABSTRACT: The study aims to understand what happens during a crisis and provides the story of the COVID-19 pandemic about social isolation. The coronavirus outbreak made the government impose specific measures to reduce the spread. The measures include social isolation and social distancing. The study provides a comprehensive analysis of how COVID-19 social isolation had detrimental effects on people's psychological well-being. The study shows the relationship between the disruption caused by the pandemic, i.e., social isolation, and people's psychological well-being. Provides an extensive literature review on how the crisis disrupted the workplace, negatively affecting job satisfaction and productivity. The research involves a qualitative systematic literature review on social isolation during the coronavirus pandemic. The study involves articles which are thoroughly assessed using the exclusion and inclusion criteria to provide a comprehensive understanding of the study themes. The study concludes that social isolation influences people's mental health in their personal lives and work life. People lack the feeling of social connectedness, which leads to increased levels of depression, stress, and anxiety. Working remotely during the pandemic heightened people's stress and depression and ultimately reducing job satisfaction and productivity.

Keywords: social isolation, crisis, Covid-19, mental health, mental well-being

JEL Classification: I19, I39, Z13

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Introduction

The beginning of 2020, COVID-19 was officially recognized as a pandemic. In response to the outbreak of the coronavirus, various measures for social distancing were developed in order to prevent the virus from spreading further. Infected people and those who had been exposed to the sickness were required to undergo quarantine and isolation measures, and members of the general public were instructed to maintain social distance from one another in order to prevent the spread of coronavirus (Pancani et al., 2021). Several nations have strengthened their containment efforts in an effort to decrease the risk of the virus spreading within their borders; these efforts include the imposition of travel restrictions and lockdowns. There were stringent guidelines for social distance around the globe, and the general population was instructed to cancel any travel that was not needed and remain at home. The measures were relaxed, but the social distancing measures remained in place, and people who had been infected with the virus were required to self-isolate. Additionally, some countries continually re-introduced national lockdowns (Issa & Jaleel, 2021). The COVID-19 virus was responsible for more than half a million fatalities throughout the world in July of 2020. This had a significant impact on the lives of people everywhere.

Because of the epidemic, people all throughout the world are becoming increasingly isolated, anxious, and stressed out. The World Health Organization (WHO) reports that death rates are much higher for those of advanced age (Kim & Jung, 2021). Protecting vulnerable persons and imposing social distance limits on all people can have unintended consequences, one of which is the physical separation that can lead to feelings of loneliness and social isolation. The objective lack of interaction with other people is what is meant by the term "social isolation." The idea of loneliness is comparable, but it more broadly refers to the subjective experience of being alone. During the lockdown, a significant number of

people all around the world felt isolated since they had less opportunity to interact with other people. There is mounting evidence that loneliness and social isolation are linked to increased rates of mortality as well as depression, cardiovascular illness, and anxiety.

An issue for the public's health has been caused by the extensive social isolation that has resulted from the coronavirus outbreak (Clair et al., 2021). It has been proven that people's well-being and overall life satisfaction suffer when they are socially isolated during a pandemic. The epidemic has caused social isolation, which has negative effects on mental health. People who are exposed to these types of events are more likely to acquire mental health issues, such as depression, panic attacks, phobias, and drug misuse, according to the findings of previous catastrophes that have befallen humanity. People were impacted in the long and short term by an increase in the prevalence of mental health disorders as a result of the pandemic, which had effects for both people's physical health and mental well-being as a result. The fact that people have turned to religion and spirituality as a means of coping with the crisis has, as a result, an effect on the therapeutic outcomes. There is a paucity of research on how COVID-19 has contributed to individuals being socially isolated, which is strongly tied to other factors such as variations in people's day-to-day life. This study demonstrates what occurs during a crisis and how COVID-19 has led to social isolation, which has a negative impact on people's psychological well-being in their personal lives as well as in their professional life.

Using the example of the coronavirus pandemic, the purpose of this study is to determine what happens during a crisis in regard to social isolation and how it manifests itself. As a result of the outbreak of the coronavirus, measures of social distance and social isolation have been implemented in an effort to prevent the further spread of the disease. Isolation from others and loneliness are serious public health concerns that are connected to the increased incidence of mental health problems. In this study, a meta-analysis on social isolation is carried out to demonstrate the ways in which the coronavirus outbreak has impacted individuals' mental health. The goal of this study is to determine the impact that the coronavirus had on people's psychological well-being and the degree of social isolation they experienced during the epidemic. It demonstrates how a global health crisis may lead to a worsening in both one's physical and mental health, depending on how a person deals with the issue. The purpose of this study is to investigate how the epidemic has caused

individuals to become socially isolated and how this has affected their lives, including the manner in which they do their jobs, their mental health, and their quality of life in general. It demonstrates how the social distance restrictions caused people to separate themselves and avoid interactions with family members, friends, co-workers, and students. The contemporary world has, on very few occasions, been compartmentalized and segregated. It is critical to have an understanding of how the imposition of many constraints during a crisis burdens people with social isolation, which in turn leads to boredom and the deepening of feelings of loneliness. The purpose of this study is to investigate how people's health is affected by social isolation and how it does so. The purpose of this study is to get insight into what occurs during a crisis by determining the effects that being socially isolated during the pandemic has. It demonstrates how interrelated the many aspects of people's life are as well as how being isolated from others is detrimental to people's mental health.

Literature Review

Social Isolation and Mental Health

An individual is said to be socially isolated when they are objectively and physically separated from other individuals. (Pancani et al., 2021). Because they provide a buffer against the negative effects of stress, social ties are vital to the health and happiness of individuals. The provision of informational, instrumental, and emotional social support via social interactions contributes to an improvement in the adaptive and neuroendocrine behavioral responses to both chronic and acute stresses, such as social transitions and self-quarantine (Li et al., 2021). According to the main impact model, having strong social connections is important for a person's mental health regardless of whether or not they are experiencing high levels of stress. The degree to which one is socially linked is correlated with the degree of protection afforded to their health through cognitive, biological, behavioral, and emotional aspects. The harmful effects of stresses on people's health are mitigated and buffered by the presence of social support. Because they are cut off from their social connections, those who have chosen to self-isolate are likely to feel higher levels of stress than other people, which has a detrimental effect on their overall health. Studies have shown that even brief periods of

social isolation can lead to unpleasant feelings such as melancholy and rage, as well as a reduction in the degree to which core psychological needs and cognitive capacities are satisfied. Isolation from one's social network for an extended period of time has been linked to an increased risk of suicidal ideation, premature death, and depression. People who are emotionally and physically isolated from others for an extended period of time are more likely to develop psychological symptoms of resignation, such as a sense of hopelessness, unworthiness, and depression. This is because these people reach a point where they feel they have no control over their situation (Li et al., 2021). Other theoretical models establish a connection between protracted rejection and practices of social retreat. Due to the unanticipated nature of the circumstance in every respect, the emotional unpreparedness for a biological emergency such as COVID-19 has a negative influence on the scenario.

The subjective experience of being cut off from other people is what we mean when we talk about loneliness. It is believed that the emotional condition of loneliness is caused by the biological reaction of being isolated from other people. Because it requires a constant state of mind, the concept of loneliness is one that has been around for a very long time (Banerjee & Rai, 2020). Isolation from society or community is what we mean when we talk about loneliness; it's a terrible sensation that can put people at risk for a number of mental illnesses, such as anxiety, depression, sleeplessness, and chronic stress. There appears to be a significant connection between loneliness and mental health, according to the literature. Having a grasp of the effects that loneliness has on mental health is distinct from having an understanding of whether or not forcing members of the general public to remain alone for a set amount of time might result in a decrease in mental health. According to a number of studies, the quality and quantity of interpersonal social relationships may have an effect on the mental health of individuals who are subject to situations that involve continuous social isolation. If self-isolation and lockdowns were to continue for an extended period of time, this would certainly result in an increased risk of fractures and frailty (Banerjee & Rai, 2020). The COVID-19 epidemic caused disruptions in contemporary civilization and curtailed people's ability to engage in limitless social activities. People who are subjected to social constraints are compelled to face the harsh reality of solitude, which in turn leads to boredom and disputes amongst individuals. Similar patterns of increased

isolation and loneliness have been seen among those who work in emergency services and those who are confined. Isolation has contributed to an increase in the occurrence of both depression and sleeplessness, as well as depression. Isolation from one's social circle has been linked to increased levels of exhaustion as well as a loss in performance among healthcare professionals. The idea of being alone leads to feelings of frustration and rage; it also has the potential to inspire people to disobey rules, which would have a significant negative impact on public health.

Lee et al. (2021) carried out a research with the purpose of identifying the steps that might be taken to prevent older people living in community settings from becoming socially isolated. According to the findings of the study, social isolation is a reflection, both quantitatively and objectively, of diminished social interactions and a smaller overall social network. When looking at older people, social isolation is an important factor to investigate since older people frequently have fewer resources and a higher degree of mobility impairment. The findings of this study concur with those of previous researchers who hypothesized that loneliness is a psychological manifestation of social isolation. Loneliness is characterized by a limited capacity for intimacy, a low frequency of social contact, and significant differences between relationships (Lee et al., 2021). Loneliness, as well as both social and emotional loneliness, are characterized by a lack of social integration; however, emotional loneliness is characterized by the perception that one lacks an attachment figure. Because it creates an increased risk of hypertension, stress, mental health concerns, and cardiovascular disease, loneliness and social isolation are a significant public health concern for older adults. This is especially true in the United States. According to Kim & Jung (2021), the emergence of the coronavirus led to a drop in the mental health of those who were over 65 years old. Isolation from others increases the risk of having poor mental health as a result of the stress caused by the epidemic. Isolation among people as a result of the epidemic contributed to increased levels of anxiety and stress.

According to Best et al. (2021), the Canadian officials in charge of public health responded to the unexpected epidemic of coronavirus by implementing public health measures such as quarantine and social distance. The precautions are necessary for preventing the transmission of the virus; nevertheless, it is not known how the social isolation and physical distance may affect an individual's mental health. In this study, the psychological effects of the different measurements are compared, and

the influence of the coronavirus on psychological distress is investigated. The purpose of this study is to ascertain whether or not the preliminary phases of social isolation measures resulted in any unintended consequences. The levels of psychological discomfort, life satisfaction, and social cohesiveness are all measured in the study. According to the findings of the study, social isolation can lead to higher levels of psychological discomfort even in the short term. This can manifest in a variety of ways, including greater levels of panic, despair, and emotional disturbances (Best et al., 2021). Coronavirus treatment that was less stringent linked to more people experiencing psychological disturbance. Similar findings were reported by Hamza et al. (2021), who found that the outbreak of the coronavirus increased the psychological distress of university students, regardless of whether or not the students had pre-existing problems with their mental health. The broad epidemic of the virus resulted in the closure of campuses across the country, which resulted in a move to online learning, which had an unforeseen effect on students all over the world (Hamza et al., 2021). Learners who did not have any pre-existing concerns with their mental health were disproportionately affected by an increase in social isolation, which had a negative impact on their mental health.

Social Isolation and the Workplace

Due to the lockdown rules imposed by the government to prevent the further spread of COVID-19, a large number of people have been compelled to do their jobs outside of the physical site ever since the month of May 2020 came to a close. The majority of workers were forced to switch to working from home, which brought up both possibilities and problems all of a sudden. One of the most common aspects of working remotely is experiencing increased levels of social isolation, both from one's co-workers and the physical location of their job. Toscano & Zappalà (2020) conducted a study with the objective of determining whether or whether there is a correlation between social isolation brought on by the coronavirus pandemic and the levels of stress, productivity, and job satisfaction associated with working remotely. The researchers carried out an online poll and received replies from 265 workers. The results of the poll showed that social isolation had a part in raising stress, which in turn caused a drop in the productivity of remote work and, ultimately, work satisfaction. According to the findings, the pandemic acts as a moderator between linkages between distant work happiness and social

isolation, as well as between job contentment and productivity. According to the findings of the study that was conducted by Toscano & Zappalà in 2020, Italy was one of the Western countries that were hit hard by the effects of coronavirus, and approximately sixty million of the country's residents were forced to stay inside their homes in order to prevent the virus from spreading further. The first containment measures were developed in March of 2020, and by May of that year, many Italian workers and companies were forced to rethink the working model, the primary focus of which was to enable them to carry out their day-to-day responsibilities outside of the workplace by utilizing contemporary technological tools. The new laws passed by the government primarily made it easier to transition away from jobs that required physical presence and toward work that could be done remotely. People were forced to work in methods that were both novel to them and, at times, ineffective for the activities that were being carried out during the period of psychological strain as a result of the unexpected and rather swift nature of the repercussions. Similar findings are presented in Prasad's et. al. (2020) research, which suggests that the COVID-19 outbreak has significantly altered the working landscape. The researchers suggest that there is a connection between psychological health and employees who worked remotely while the coronavirus crisis was ongoing.

Several pieces of research point to the potential benefits of working from home, which include favourable outcomes in terms of one's job performance, organizational commitment, and overall job satisfaction (Issa & Jaleel, 2021). On the other hand, studies have shown that working from home can lead to a number of negative outcomes, such as increased family-work tension and professional isolation. Working from home also reduces the likelihood of receiving a promotion and disrupts professional connections. The individual, their family, organization, place of work, and the kinds of technology tools they use all have a role in determining the good and bad effects. Despite this, the outcomes cannot be attributed only to impromptu and unplanned remote work done in response to the emergency caused by the outbreak of COVID-19. Many people, particularly those who were already in poor health, showed signs of despair, stress, and anxiety in response to the pandemic crisis, which led to widespread concerns. According to research, the COVID-19 period included restrictions that led to an increase in people's level of unhappiness with their jobs, which in turn can lead to an increase in the level of pay disparity among

workers over the long run. Toscano & Zappalà (2020) found that job demands that need persistent psychological and physical efforts lead to increased weariness and stress, which in turn produce a decline in performance. This is due to the fact that the demands of the job require sustained effort. One of the requirements of the work may be described as the feeling of being alone, as well as the lack of chances for social and emotional interaction with the supervisor and the rest of the team. Previous research has demonstrated that being socially isolated has a negative influence on both performance and health. The social isolation that occurred during the crisis demonstrates features that are frequently present in labor that is performed remotely. The primary distinction between working remotely during the coronavirus season and working during regular business hours is the absence of face-to-face encounters. During the coronavirus pandemic, many employees were forced to utilize technology in order to communicate with one another and reduce the amount of social isolation they experienced as a result of the pandemic. The use of telework has made the phenomenon not unique to a select group of people but rather applicable to other workers.

Golden et al. (2008) claim that technological innovation has displaced people from the actual workplace and allowed them to conduct tasks from the usual office environment. Telework is being done in more and more locations all around the world. Studies demonstrate that professional isolation causes teleworkers to be left out of the loop of workplace relationships, as highlighted by Toscano & Zappalà (2020). This is the case despite the fact that telework is thought to have positive effects on job performance and employee retention rates. Because of this procedure, employees who telework report feeling isolated from their coworkers. This poses a substantial barrier to the widespread adoption of telework. A person may be said to be suffering from professional isolation if they have the mindset or perception that they are not in contact with other people in their place of employment. Isolation produces an innate need and effort on the part of the individual to feel socially connected. Working remotely does not satisfy the demand for social components such as understanding, support, and other social characteristics that are acquired from face-to-face encounters that arise as a result of the isolation. Isolation in one's professional life creates opportunities for problems to arise with regard to the efficiency of the remote work model. Even if a person may feel professionally isolated when working among

other employees, others may still be able to keep the sense of connection even when they are not frequently coming to the office. Isolation in one's professional life can be attributed to the perception that a person does not have sufficient relationships with other workers, which combines with a lack of sentiments of social closeness. To avoid social and professional isolation in one's line of work, one must have an adequate number of contacts in both fields. Work results might be affected by factors such as physical separation or loneliness brought on by professional isolation. The knowledge base of the person is put at risk when they are isolated, which is detrimental to their performance on the job. Workers who do not have adequate opportunities for social connection perform at a lower level and are forced to carry out their professional duties with fewer insights. Employees who work from home report higher levels of worry and tension, which may have a negative impact on their ability to make sound decisions.

Even (2020) agrees with the findings of research by Toscano & Zappalà (2020) and Golden et al. (2008), which show that pleasure may be increased through social connections and the impression of support from others. This study reveals the best strategies that may be used to prevent social isolation for employees who work remotely. People used to think of their jobs as the place they went to every day, whether it was a factory, a shop, a store, or even an office. However, as Golden et al. (2008) pointed out, technology has made it possible for individuals to work from any location, which has led to a fundamental rethinking of what it means to be employed. Work has transitioned from being a location to consisting of a variety of goals and activities that individuals carry out. The term "telework" refers to the practice of carrying out some or all of one's regular work responsibilities away from the traditional workplace, such as from inside the confines of one's own home or from an off-site eating establishment. Isolation and detachment are two problems that might arise from working from home. A significant number of workers are sent home to do the less meaningful aspects of knowledge job, with little to no engagement with their coworkers in the process. A significant number of workers do not interact with their immediate bosses or coworkers. Although technology enables workers to perform their jobs from any location, this perk is rarely taken advantage of. Some workers have reported increased feelings of loneliness, isolation, and stress as a result of

the technology that allows for greater working flexibility (Even, 2020). People's personal life have been disrupted as a result of their having to work from home. The employees who work remotely complain of being exploited by their jobs and losing out on opportunities to gain new skills. Job satisfaction suffers when employees are kept apart from one another. Because social and face-to-face contacts are replaced by telework, employees get the impression that they are missing out on insider knowledge. Employees believe they are being kept in the dark, which contributes to increased levels of sadness, stress, and worry among those workers.

Research Methodology

A qualitative and systematic literature review is going to be used as the methodology for the investigation. We searched the systematic literature in order to locate the most compelling evidence that is currently available. Creating an evidence-driven review question, developing a review procedure, carrying out an exhaustive search for relevant evidence, and applying inclusion and exclusion criteria are the usual phases of a systematic review. Following the selection of the most relevant pieces of research literature, a quality evaluation, data extraction, and finally a synthesis of the findings are carried out. The research finds articles by doing a search in a bibliographic library and utilizing a "snowball" method that starts with a focal article. In order to choose the most reliable facts, each article was scrutinized to determine whether or not it should be included. In order to establish the quality of the selected articles, the mixed methods tool was utilized in the evaluation process. In order to obtain the useful data on the topic of this study, the finest study papers have been summarized, and the data extraction process has begun. The data was retrieved through the use of thematic coding in order to extract significant topics from the articles that were chosen. In order to have a better understanding of the COVID-19 epidemic and social isolation, the material has been synthesised into themes. The research offers a comprehensive grasp of the effects of being isolated from others while suffering from coronavirus on psychological health as well as changes in the job. Through the use of the electronic database, a search is conducted for publications that are published in English and are about coronavirus and social isolation

Results and Discussions

According to the conclusions of the study, the emergence of COVID-19 had negative impacts on humans. People's mental health was negatively impacted as a result of the implementation of public health policies that encouraged social distance and isolation. Loneliness and amplified emotions of stress, despair, and anxiety were the results of social isolation during the extraordinary crisis caused by the coronavirus. Social connectivity is vital for providing support to people during challenging times. Isolation from one's peers has a negative impact on a person's psychological health. It is simple to ignore the psychological impacts of a crisis and concentrate exclusively on its material repercussions; nonetheless, there are psychological effects related with the emergence of the crisis. According to the available research, experiencing social isolation, even for a little period of time, can lead to unpleasant feelings such as melancholy and anger, and can also have a detrimental impact on one's psychological well-being and general quality of life. The fact that individuals were emotionally unprepared for the implications of the crisis also contributed to the deterioration of their mental health since they were inadequately ready to deal with such substantial alterations in social connectivity.

As a result of the social isolation that was mandated by the government, a significant number of workers began working from home, which led to a rise in the level of professional isolation. The employees' perception that they were cut off from their coworkers contributed to the elevated levels of pressure and stress they experienced on the job. Employees feel overwhelmed by the decision-making process since they are unable to engage in face-to-face interactions with their superiors and other workers. Employees who work from home are more likely to experience feelings of social isolation, which can have a negative impact on mental health. The increased prevalence of mental health problems has an impact on the job performance and happiness of the employees. According to the findings of the studies, workers report lower levels of satisfaction with their jobs since they are cut off from the information loop at work and have less opportunities to advance in their careers. The personnel suffer from a loss of morale, which, in turn, has a negative impact on their productivity and performance.

Conclusions

In conclusion, the COVID-19 pandemic outbreak caused a global catastrophe that compelled individuals to remain isolated from one another. People report higher levels of stress, worry, sleeplessness, and sadness as a result of the situation. The fact that people felt cut off from their families, friends, and co-workers contributed to an intensification of their feeling of isolation and loneliness. People who are older are more susceptible to the negative effects of social isolation, which includes an increased chance of developing other illnesses such as hypertension and cardiovascular disorders. Because of the COVID-19 epidemic, there was a significant adjustment made to the concept of labour. People were required to leave their workplaces or other physical locations in order to prevent the virus from spreading further. The personnel were subjected to the detrimental impacts on psychological well-being that are associated with being socially isolated. The employees were coerced into isolating themselves from their co-workers and other people in the workplace, which resulted in increased levels of stress, despair, and anxiety. The employee's mental health suffered as a result of the forced remote labour that was required due to the coronavirus epidemic.

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