The Future of Work

White Paper

Abstract

The Digital Council Africa is one of five separate but closely co-operating organizations representing the fibre optic industries in regions across the world, called the Fibre Council Global Alliance (FCGA).

Comprised of Europe, the Americas, Middle East and North Africa, and Asia-Pacific together these regions signed an MOU to strengthen its collaboration to extend high speed broadband connectivity across the globe.

The FCGA meets regularly to collaborate on general topics of interest within the fibre community, including publishing the Global Definition of Terms. This paper is another such initiative.

The 2021 FCGA partnership led it to conduct the Future of Work survey. This survey aimed to gain a better understanding of our industry and the business and personal experience after the shift to remote working was brought on by the COVID-19 pandemic. It further aims to understand how these experiences differ at the regional level.

The issue of work has been top of mind for many executives and how the pandemic has normalized remote work, and now they are considering what this might mean going forward.

Will they send their staff to the office again – and, if so, how often? What impact will a 'hybrid' way of working have on how teams communicate, connect, and create? In addition, the study aimed to gain insights into productivity, how it is measured, the use of applications and collaboration tools, challenges faced by remote workers and how or if they were resolved.

Also, the study considers what broadband technology is most used by home workers and what technology and infrastructure investments businesses have made to support them. The outcome illustrated interesting regional and cultural differences but also drew attention to several areas of global alignment.

Key Findings:

While most businesses were not prepared for a near 100% remote workforce, the pandemic accelerated a few initiatives including:

- Developing a Work from Home Policy
- Infrastructure and technology investments or subsidies to mitigate technological challenges and to support remote workforces
- Evaluation and measurement of remote employee productivity

- Health safety was indicated as a benefit

Work From Home Policy

Prior to the pandemic, over 50% of respondents did not have a work from home policy, post pandemic almost 80% do.

Residential Internet, No Longer A Luxury

Almost 52% of respondents indicated bandwidth (download/upload) and internet connectivity were among the top challenges they faced while working from home. Resolution of this and other challenges included changing ISP, upgrading equipment, limiting internet use, and adjusting time of day online meetings and tasks were being conducted.

Supply Chain Challenges

Over 40% of the respondents indicated that procurement and production forecasts will increase over the next 2-3 years.

Could Work From Anywhere, but have not relocated

Almost 83% of respondents have not relocated since becoming a remote worker.

Felt Safe, Sheltering In Place

Several respondents indicated that feeling safe from a health perspective, limiting or prevention of spreading or contracting COVID-19, and the ability to work internationally without traveling were of top concern and particularly beneficial.

Key Regional Differences:

LATAM Reported Widest Range of Connectivity Challenges

- LATAM reported highest level of lack of internet connectivity (21%)
- LATAM reported highest level of bandwidth constraints (40%)
- But, LATAM also reported the highest usage of FTTH (63%)

Sub-Saharan Africa had less demand on Bandwidth

- Sub-Saharan Africa reported lowest level of bandwidth constraints (11%)
- Sub-Saharan Africa reported highest usage of satellite broadband (5%)

Europe Was Connected

- Europe reported lowest level of lack of internet connectivity (14%)

ICT Subsidies Varied by Region

- Sub-Saharan Africa (62%) and Europe (58%) reported highest level of ICT subsidies

- No ICT Subsidies in Latin America (65%), MENA (67%), (67%) and Asia Pacific (57%)

WFH Productivity Varied by Region

- Europe, US, LATAM reported Productivity Increases from WFH
- Africa did not report notable diffirence
- MENA, only 36% of respondents felt productivity increased and 43% felt it decreased

Methodology:

Over a 2-week period, the FCGA surveyed member and non-member company participants, webinar and event attendees on an individual basis to develop a global view. The respondents ranged from Management and C-level personnel, architects, engineers, marketing professionals, and consultants and spanned across the following organization types:

- Network Operators, both large, nation-wide, and regional, local carriers
- Vendors/suppliers
- Contractors
- Investors
- Consultants

Across the following regions:

- North America
- Latin America
- Europe
- Middle East & North Africa (MENA)
- Sub Saharan Africa
- Asia Pacific

Each region conducted their own survey using a survey tool of choice and the responses were consolidated and shared across both organizations and regions. More than 500 responses were received.

Most respondents fell within the small and mid-size business category in North and Latin America, whereas larger businesses representing were in the Europe, SSA, MENA and Asia Pacific regions. While the respondents represent individuals working in the supply and demand sides of telecommunications services, this survey should be seen as a contribution to the very important questions raised by the WFH revolution, not as a comprehensive study on the subject.

Summary

Trends toward remote workforce has been in play for several years, but remote working became a necessity overnight in mid-2020 when a global lockdown was announced. Originally thought to only last for a few weeks or maybe months, this trend is now expected to continue for the long term. For those who were not accustomed to working from home, sharing the internet with other members in the household proved to be challenging and frustrating while businesses worked tirelessly toward providing some relief as quickly as possible. However, not all employees had their issues resolved essentially waiting out slow loading applications and files, webpages, and low-quality video conferencing. It took time for most of the issues to be resolved and most companies report that they have effectively moved to a online working model.

Policies Revisited and Revised

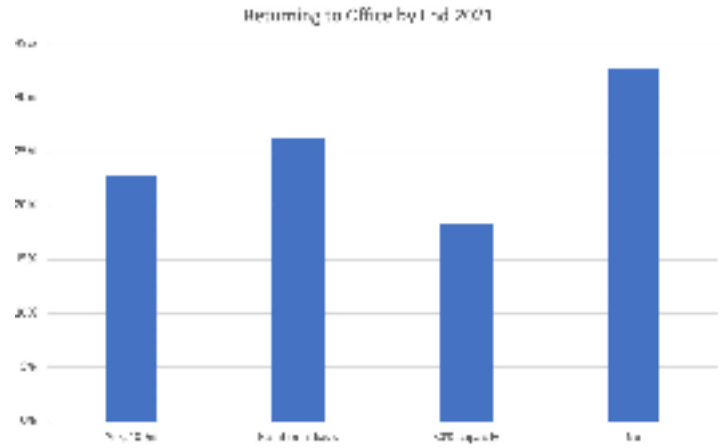
It is well accepted that all companies need policies. Whether it is a Code of Conduct or an overall Corporate Policy that provides guidelines to employees indicating what is expected of them. Historically, working from home was not widely adopted and was typically the exception rather than the norm. Since the beginning of the COVID 19 pandemic this has taken a significant shift to a more permanent model leaving most businesses having to revisit and revise their existing policy to include working from home (WFH).

Prior to the pandemic over 50% of our respondents said that they did not have a work from home policy. As guidelines from organizations such as the World Health Organization (WHO), Centre for Disease Control and Prevention (CDC) and state and local governments continued the orders of stay, businesses found the need to revisit and revise corporate policy to include WFH. In mid July 2021 businesses continues to evaluate the economics of remote workforces that will help shape decisions around if, or when, employees return to office environments. However, companies have had to revisit they way they view WFH and agree that pandemics are not the only threat that will keep WFH in play, for example, the recent U.S. fuel crisis brought on by a ransomware attack on the East Coast in the United States shut down the Colonial Pipeline for six days. The shortage left many without gasoline to get them to their place of work, clearly demonstrating that for those who can, will more than likely continue to work from home to maintain productivity and conduct regular business. More recently in South Africa the civil unrest meant that entire provinces were shut and people remained indoors while government brought the unrest to a halt.

Similarly in other parts of the world other factors are now considered to enable employees to work from home and even if it is not on a full-time basis, most companies are now prepared to have their employees fully ready to work from anywhere. At a bare minimum companies are implementing policies that can be implemented in a very short space of time to ensure that employees can be shifted remotely and remain productive.

Not surprisingly, respondents indicated that since the onset of the pandemic, globally, over 77% have since adopted formal WFH policies to support remote work. This paper will demonstrate that this trend is expected to continue as 26% of our respondents indicated they will return to the office by the end of 2021 on a rotational basis (flex between office and home), 23% will fully return to the office, 18% will return at 50% capacity, and almost 33% will remain in remote workforce mode.

Other indicators that WFH will become the norm is evidenced by other surveys such as Gartner. In 2020, a Gartner survey revealed 82% of company leaders said they plan to allow employees to work remotely at least some of the time.



Source: Fibre Broadband Association, July 2021

Multiple Broadband Technologies Utilized with Challenges

The demand for high-speed internet has never been higher. Since the onset of the pandemic, nearly the entire education system moved to remote learning and most businesses operating almost entirely from residential environments. Prior to lockdowns and orders of stay, the inefficiencies of internet service were tolerated as the average household used internet services largely for entertainment, connecting with family and friends, and email rather than the entire household simultaneously using bandwidth hungry applications for mission critical work and online education. The utilization of the internet shifted from simply being a tool for entertainment purpose to more critical applications such as attending important meetings via collaboration tools and children having to participate in classrooms to ensure that they stayed up to date with their curriculum. Many respondents cited that poor quality of internet experience has been a challenge and frustrating. Traditional bandwidth needs had increased, and households had to upgrade line speeds and opted for uncapped services to ensure that the entire household can remain online with decent speeds.

End Users Do Not Understand Telecommunications Network Infrastructure

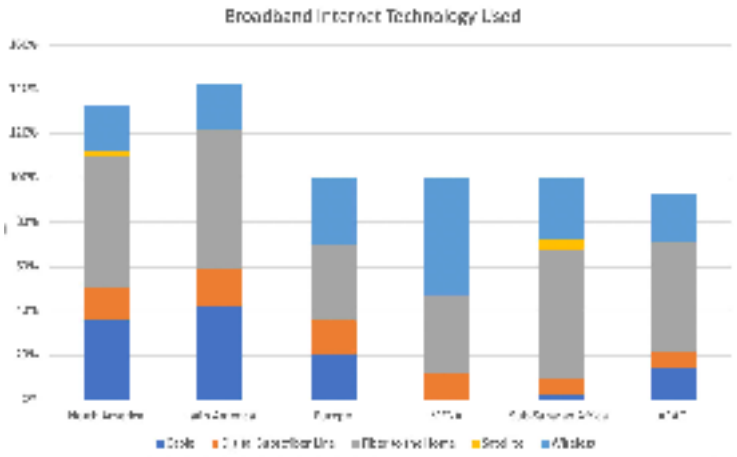
Before wireless and WiFi, broadcast and broadband were separate and supplied specific services. Initially, the internet was supplied simply by dial-up, followed by DSL, and cable (after cable only supplied broadcast). There was no mistaking how the internet was accessed. Today, with WiFi routers, the internet can be supplied by cable/coax, but with a WiFi router, and some users mistake this as accessing the internet directly through wireless technology. Unsurprisingly there appears to be lack of understanding as to what technology actually supplies their connection to the internet.

However, many users are unaware of access and backhaul technologies such as fibre or coax/cable and believe broadcast technology supplying their broadband service. Some respondents noted inconsistent connection and latency despite having a 250MB broadband connection to their home. This is even more interesting when considering the survey respondents were ‘well-educated’ corporate citizens. And yet, users focus on their experience at device level (it works, it does not - it is slow, it is fast) and do not appear to care much about how they are connected, or how technology works. It is clear that users do not understand the components that make up their connection and will often blame the line speed, even if it is the router that is inadequate.

Connectivity solutions per region

When considering what connectivity is being used per region, Latin America showed the highest concentration of Fibre at 63% of respondents, followed by North America, 59% of respondents indicated their broadband service is through Fibre-to-the-home. With the noted confusion, 19% of respondents in North America also chose wireless, which we anticipate they are conflating WiFi with wireless.

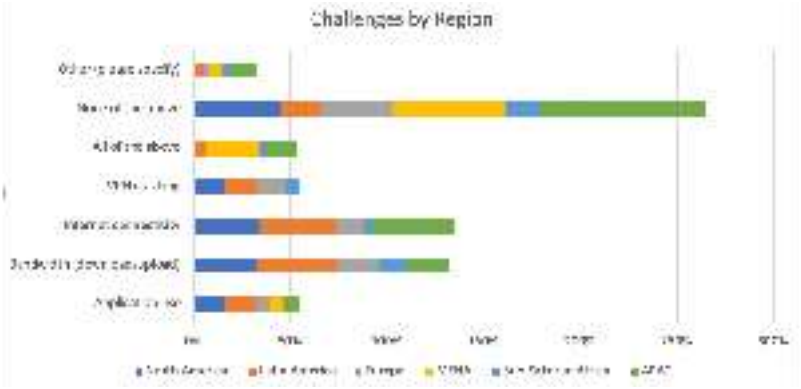
Sub-Saharan Africa was the third highest concentration of Fibre-to-the-home with 58% of respondents. Satellite was not selected in Latin America, Europe, Asia Pacific, and MENA regions with only 2% in North America and 5% in Sub-Saharan Africa.



Source: Fibre Broadband Association, July 2021

Bandwidth Reported as Biggest Issue

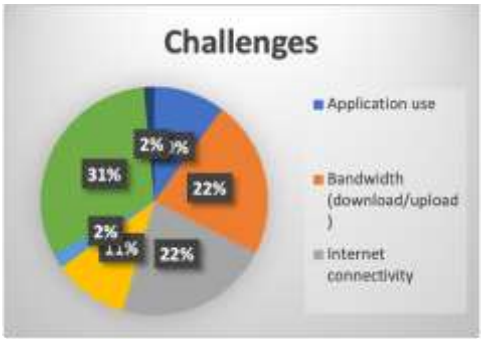
Working at home and experiences with technology proved to have challenges which varied across the globe. Application use ranked lowest, with some of the bigger issues being bandwidth (upload/download) speeds (27% overall). Latin American respondents indicated bandwidth constraints being highest, followed by North America, Asia Pacific, Europe, and Sub-Saharan Africa at 41%, 33%, 29% and 22% and 12% respectively.



Source: Fibre Broadband Association, July 2021

Cable Broadband Reported as Insufficient

Many respondents indicated that current speeds on their cable supplied internet was insufficient. Internet connectivity was the second highest challenge (21% overall), led by Latin America (41%), North America (34%), Sub-Saharan Africa (23%) and Europe (14%).



Issues stemmed from the sheer volume of utilization between online meetings for those working from home, adding online education for more than one child in the household.

Source: Fibre Broadband Association, July 2021

Brute Force Home Troubleshooting Tactics Adopted

Several respondents indicated that their connectivity challenges were not resolved, and ultimately had to "wait it out" along with the usual basic self-sustained troubleshooting techniques such as rebooting routers, modems and PC's. Some relief came about by simply going to the office (when safe to do so), upgrading their internet service to support higher speeds (where available), service calls to the provider, and working with remote IT departments. Other more extreme "brute force" tactics such as switching off cameras in almost all videoconferencing systems, rearranging video conferencing times to non-busy hours, and switching to single room office space at business centers were among the remedies. Technology use varied among the challenges, for example, in North America, 46% of respondents using cable or DSL cited internet connectivity and bandwidth issues.

Employers provided technology upgrades for WFH Employees but not Subsidized in LATAM, MENA.

It is worth noting that while some companies were well prepared to support remote workforces, many found themselves in the position of having to make changes in technology investments, both infrastructure, subsidies, and devices.

These investments came in several ways to alleviate issues or improve the at-home work experience and support work at home employees including laptop purchases for every employee and subsidizing commonly used technologies such as internet and phone service. Companies that did not already support remote workforces handled support in a few ways, but this varied region to region. Regions where respondents indicated ICT/IT equipment suitable for working from home was not subsidized were in Latin America (65%), Middle East and North Africa (MENA) (67%) and Asia Pacific (57%). Those regions with the highest subsidies for ICT/IT equipment included Europe (58%) and Sub-Saharan Africa (62%). Some purchased laptops and mobile phones while others had employees take home IT equipment from the office.

Conversely, a small percentage of respondents indicated that their company made no investment to support the shift to remote work at all, meaning employees had to purchase their own laptops, cameras, desks and monitors.

Employers Invested in Servers, Increasing VPN Capacity and Cloud Services

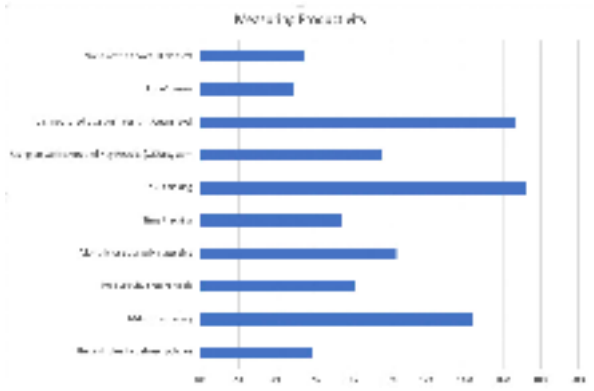
In attempts to improve the WFH experience and keep productivity, businesses took action with respect to updating infrastructure and capacity.

These efforts and investments include purchasing more servers and software for more VPNs to increase capacity, moving software to cloud environments, supporting employees with remote working software and hardware (including collaboration applications), investments in IT services and data security, adding extra space for file sharing into cloud connectivity and digital signatures.

It is in these areas where some relief can be achieved, however, they will not solely help at home workers from being able to conduct high volume internet related activities if they do not have enough bandwidth or high enough speed internet service to support usage.

Measuring Productivity: Tools and Policies for WFH Employees is Necessary

To stay competitive, measuring employee productivity is a must. Before working from home was an option, in an office environment this used to be a straightforward exercise. In the office environment, processes followed include beginning with metrics followed by observation, in-person meetings, periodic evaluations, and reporting. As technology advanced, new tools to help measure employee productivity came to market, such as Objectives and Key Results systems (OKRs) and productivity tracing tools, but only a small percentage of our respondents currently use these tools for remote workers. In fact, most currently do not employ clearly defined policies for remote working, despite the shift to WFH environments.



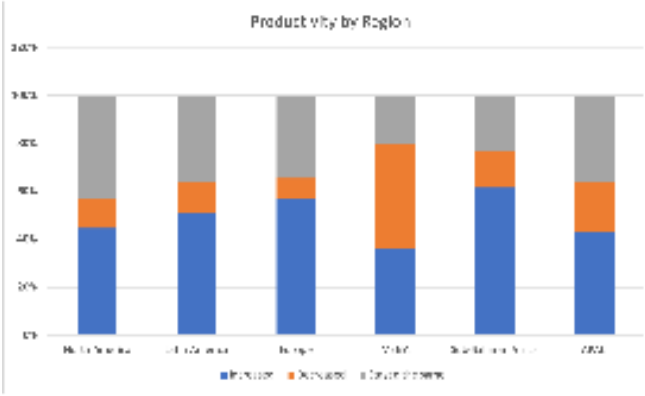
Source: Fibre Broadband Association, July 2021

Mixed Results on Productivity in Some Regions

Some respondents in Europe noted that at the beginning of the pandemic, productivity increased, but slowly and consistently has been decreasing. Some MENA respondents cited that with confinement and government restrictions to 50% capacity of employees switching to WFH, policy was initiated after the

pandemic. In other parts of the world, some indicated that while they felt their productivity increased, management would feel differently.

Our results indicated, globally 29% of our respondents indicated they will return to the office by the end of 2021 on a rotational basis and almost 25% will remain in remote workforce mode. This means that traditional means of measuring productivity will no longer be effective and may lead to confusion, miscommunication, and poor productivity to the business.



Source: Fibre Broadband Association, July 2021

Use of Productivity Tools - Productivity Increases in the U.S.

Using a variety of tools and tactics can be helpful in keeping productivity levels up and maintain competitive advantage. For example, in North America, 45% of respondents indicated that employee productivity has increased, and results show a combination of tools and techniques are utilized. Of the 45%, 22% are measured through milestone tracing, 28% are measured through monthly or quarterly reporting, 22% use time and/or task tracking, and 22% use objectives and key results (OKR) systems, and 39% are measured at the business unit level. Flexible workday and no commute were among the highest of perceived benefits of those whose productivity increased, (62% and 53% respectively) as employees view commute time as being time that can be used for worktime, less interruptions while at the office, and can focus better.

While a relatively small percentage of respondents indicated their productivity decreased, it is recommended that organizations institute company-wide policies in combination with productivity tracing tools at the business unit level. Understanding motivational aspects of how employees typically work can be particularly beneficial as well. For example, some employees are motivated when reaching milestones, while others are more task oriented and therefore can feel more accomplished through time management and tracking or accomplishing tasks.

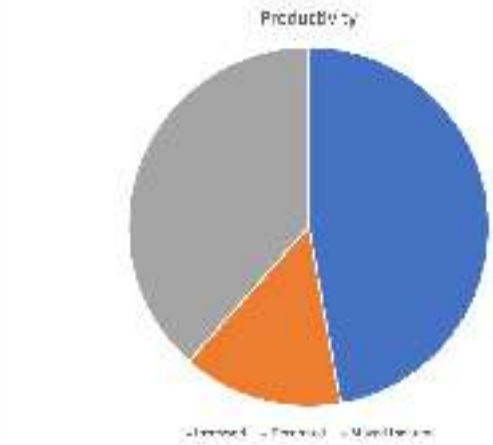
Productivity Increase with WFH, except in MENA

On average globally, 49% of respondents felt their productivity increased, while 32% felt it stayed the same. However, in the MENA region the general consensus shows a feeling of drop in productivity compared to the rest of the region where only 36% of respondents felt productivity increased and 43% felt it decreased.

A deep dive into the survey results shows that was a result of combination of many elements occurring at the same time:

- Low WFH policy prior to COVID19 which meant this option was not tested prior to COVID19 and accordingly there was a time required to adapt

- Measure of productivity was based on a collective output (team) rather than specific individual tasks and milestones
- Heavy use of wireless technology with its limitation in broadband and capacity (the region doesn't have cable companies so in general it is either FTTH or Wireless)
- Low awareness level of the diverse online tools (other than teleconferencing) had created a limiting effect to fully utilize the WFH opportunity
- Low subsidy from Corporate in terms of equipment cost and connectivity charges forcing people to opt to use their pre-Covid internet plans with its own limitation



Source: Fibre Broadband Association, July 2021

Productivity Increase, compensation not

As technology over the years advanced, overall productivity increased as well.

Tools and applications that make jobs either easier, more productive or in some cases, eliminated altogether have been a key component to employee and business productivity. The recent work from home boom has in many instances resulted in much higher productivity levels, but some studies have indicated that wages have not kept pace with higher job efficiency.

According to a study by the Economic Policy Institute, from 1979 to 2019, net productivity rose 72.2%, while the hourly pay of typical workers essentially stagnated—increasing only 17.2% over 40 years (after adjusting for inflation). This equates to businesses enjoying a more productive staff, but compensation have not kept pace with productivity increases.

In addition, to having a more productive work staff, a small number of US based business have indicated that they will consider whether or not to adjust compensation based on geography of those employees wishing to relocate. They cite examples: an employee living in Los Angeles, CA or New York, NY where the cost of living is considerable higher would earn a higher wage than an employee living in a rural town in Nebraska.

According to Glassdoor, the five cities with the highest potential pay cuts and average estimated drop, on average, across job titles are:

San Jose: -24.6%

San Francisco:%21.7-

New York: -9.8%

Seattle:%9.7-

Los Angeles:%8.7-

Relocating: Zoom-Towns and Semi-gration vs Staying Put

The move to working from home also influenced where people live. Regions and areas that are experiencing high development and growth are often referred to as "Boom-towns".

Since the onset of the pandemic, major migration has started happening all over the world. The shift to remote work has meant that employees are able to resettle where they want to live rather than where they must live as they no longer have to go to a physical office. However, for workers to remain productive they are looking to towns with good connectivity, these towns now being called "Zoom-Towns". For example, some families in the United States are moving away from the big cities like Chicago in favour of less expensive areas such as the Florida beaches, while others opted for more rural and mountainous areas such as Texas and Montana. It is in these more remote areas where affordability, less crowding and stress levels, and improved work life balance were sighted as reasons for the move. In South Africa, this is being referred to as semi-gration.

According to the National Association of Realtors, almost 9 million Americans have relocated since the start of the pandemic and suggests that 1 in 3 workers will move to a new state if remote working are permanently adopted. This survey results indicated that on the average 82% globally did not relocate (as yet). This may be because our sampling of respondents was made up of roles that might require them to be closer to job sites or that they are still waiting for their companies to announce their future WFH strategy and in this regard 25% indicated that they will remain in remote workforce and that relocation is of high interest.

We also anticipate the proportion of people who will keep on working from home, when the COVID crisis is over or more controlled, will have a profound impact on how work is organized, and how office buildings are used and designed.

To date most companies have not clearly defined future WFH policies and therefore people are not in a position yet to decide on future locations. In South Africa however there is a notable increase in property enquiries especially in coastal towns. A critical enabler remains good connectivity. Further positive effects include environmental considerations (fewer cars on the road in major cities), curbing urbanization and the potential rejuvenation of small towns.

Procurement and Production is Slated for Growth

The swift shift to remote workforces forced companies to re-examine their current procurement cycle and identify any existing inefficiencies. Never has there been a more critical time to look for improved business performance and productivity. The correlation between employee productivity and procurement is in support of employees being more productive while working from home. As more time is dedicated to matters of the workplace in lieu of business travel and daily commuting as well as being able to spin up critical decision driven meetings quickly and meet with prospective and existing customers more

frequently, it is not surprising that 39% of the respondents indicated that procurement and production forecasts will increase over the next 2-3 years.

While it is the case that companies have increased their forecasts, they need to be more realistic in terms of achievability. For example, a major side effect of the pandemic has affected the manufacturing industry where there have been serious disruptions to production and supply chains. Some industries have suffered from lack of meeting timelines or deadlines due to products produced in lower quantities or in some cases, not at all.

Summary and Conclusions

During the COVID19 pandemic WFH was an act of necessity for most companies.

To optimize the sudden shift in productivity organizations needed to prioritized the setting of WFH policy, revisit delivery/productivity metrics, educate employees on online tools that can be used to capture the WFH opportunity and when possible, purchase office equipment' to enable remote work and offer a subsidy to employees to support data costs associated with WFH (if it was agreed).

While many suffered from the challenges of slow connectivity and having to rearrange how they conduct regular business on a day to day basis, access to high speed broadband became a key component to eliminating connectivity struggles. FTTH providers saw a marked increase in demand from individuals working from home (this was exasperated by households with children that had to access online schooling). Further, many individuals opted to not spend as much time visiting restaurants and parks and opted to rather stay at home and watch content online. The demand for online entertainment added to the increase in data traffic witnessed by most operators.

While our results did not quantify relocation trends, it seems that many people that have not relocated will consider to do so as soon as their companies announce permanent WFH policy. In this regard individuals will strongly consider towns that have good connectivity in order for them to remain productive. FTTH seems to be the connectivity choice for most looking to relocate, and it is expected that many towns will re-visit their broadband strategy to ensure that they can attract individuals who are looking to relocate. In South Africa this is referred to as "Semigration" and in the US it is referred to as "Zoom Towns".

It is widely accepted that deploying high speed broadband infrastructure will help close the compensation gap and bring economic benefits to so called "Zoom-Towns" as well as benefits to increasingly popular rural areas that are investing in broadband infrastructure.

Employees cited benefitting from a more flexible workday which leads to improved life and work balance as one of the biggest reasons that they prefer the WFH model.

Given the disruptions to supply chain and production, it is suggested that procurement and production forecasts, should be no longer than 3 years out when supply side has returned to a normal state and has caught up with demand.

Using a combination of tools to measure productivity has proven successful and should be done at both a business unit and companywide level.

Finally, post-pandemic and going forward, a firm's ability for most of its employees to work from home is linked to three factors:

Company's Production Environment

Whether the majority of a firm's employees are involved in production of equipment/service that requires on premises presence

IT Infrastructure

Whether the firm has the right digital tools and infrastructure in place to support work from home (WFH)

Home - Work Environment

Whether employees can work from home, (e.g., sufficient internet access etc.) and maintain productive.

-End-

For more information on this paper please contact: Juanita@digitalcouncil.africa