*Proceeding Book of **The 6th ICMEM 2021**, 11-13 August 2021, Bandung, Indonesia*
***ISBN**: 978-623-92201-2-9*

The Impact of COVID-19 on High Growth Firms in Hull: A Study about Business Digitalization and its Role in Adapting to COVID-19 Business Environment

Jeffrey Yudiarta Joe[a] and Antonio Malfense Fierro[b]

[a]*School of Business and Management, Institut Teknologi Bandung, Indonesia*
[b]*University of Hull, United Kingdom*

Email: jeffrey_yudiarta@sbm-itb.ac.id

Abstract - **The COVID-19 pandemic has greatly slowed down the business world, forcing firms to adapt to this new normal. Among various adaptation strategies towards COVID-19, digitalization is one of the go-to strategies for firms especially High Growth Firms (HGFs) to mitigate the adverse impacts of the pandemic. The study will explore how COVID-19 impacted HGFs from various industries, their strategies to combat COVID-19, and the role of digitalization to combat COVID-19. Data collection is done through interview, and data is processed using a series of Open, Axial, and Selective Coding through the Nvivo 12 software. The study results show that COVID-19 has brought many challenges for HGFs, but it also has brought some advantages and opportunities that these HGFs capitalize. Furthermore, a unique scenario in Hull can be observed where HGFs are largely digitalized even before COVID-19, and those who haven't highlights digitalization as one of their highest priorities. The findings of this study are expected to provide other businesses with insights to overcome COVID-19 obstacles, or accelerate their growth. Furthermore, the study can be a reference for future studies who want to explore topics related to HGFs, COVID-19, and digitalization.**

Keywords – **Business Strategies, COVID-19, Digitalization, High Growth Firms (HGFs), Hull**

I. INTRODUCTION

The COVID-19 outbreak has adversely impacted the business landscape in various sectors, where population mobility is severely restricted to prevent further outbreak. This drastic change in the environment settings has spurred firms of all sorts to adapt to the world changes caused by the COVID-19 pandemic. Firms felt the urgency to digitalize their business as quickly as possible due to the fact that regular operations are disrupted due to "work-from-home" conditions [22].

It is a common belief that firms utilize digitalization as a way to transform their business model swiftly. Digital technology's rapid development and utilization is the perfect reason why firms are able to utilize digitalization to respond to ever-changing business landscape [5]. Furthermore, transformation or adaptation to one's business model via digital technology has been largely documented as a strategy directly used to respond to disruptive environmental changes [19]. Therefore, there is merit in viewing digitalization as a valid strategy for firms to adapt to the COVID-19 pandemic changes.

Surely, the success of High Growth Firms in maintaining their growth during the COVID-19 pandemic is no mere coincidence; it is a result of their business strategies. Currently, there are many existing literature that depicts each individual key factor - literature on High Growth Firms, literature on COVID-19, and literature on Digitalization. However, existing literature regarding interconnection between all 3 factors is scarce to none on a world setting. Furthermore, there are no existing details on how these 3 key factors work together in Hull. Therefore, there is a potential opportunity to discover something new by studying how all these 3 key variables are connected - in studying how High Growth Firms manage to utilize strategies, especially digitalization to combat COVID-19. Furthermore, studying key factors of their success can result in key takeaways that could be implemented to help bridge in the knowledge gap between High Growth Firms and SMEs who are struggling or in danger of shutting down soon. In order to do so, a proper research methodology has to be made to ensure data obtained will be relevant and usable for this research.

Despite COVID-19 has driven many businesses to close down, there are High-Growth Firms (HGFs) who managed to maintain their growth rate throughout the year afflicted by the pandemic. These firms managed to transform their business model, be it through digital transformation of their business model, or through digitalization of their current business model, allowing them to not only survive, but grow in this challenging year. On the other hand, small and medium enterprises (SMEs) still struggle in digitizing their business, which is now viewed as essential in this pandemic [21]. Therefore, there is an apparent knowledge gap on how High Growth Firms have successfully digitalize their business model in this COVID-19 period. Conducting research to bridge this knowledge gap by exploring High Growth Firms practice in digitalization would offer beneficial information to assist SMEs in conducting their own digitalization for their business.

A. *Research Questions*

This research is part of a team research project (hierarchy shown in Figure 1), which focuses on the impact of COVID-19 towards businesses in Hull. Therefore, the team came up with several research questions as following:

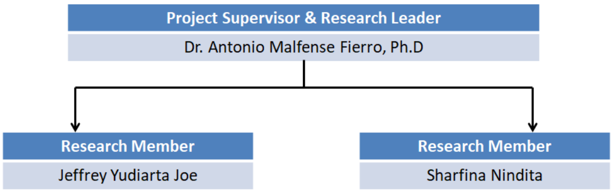

Figure 1: Research Team Hierarchy

1. How has COVID-19 impacted High Growth Firms from various sectors in Hull? What differences and similarities that can be observed in terms of its impact?
2. What methods that High Growth Firms in Hull has taken to overcome these challenges and maintain growth in the COVID-19 impacted business environment?
3. What forms of training or assistance is pivotal for High Growth Firms in facing the COVID-19 threat, and how has the government and private sector helped High Growth Firms on that matter?
4. How applicable are COVID-19 policy interventions (from public and private sector) in ensuring the survival and growth potential of High Growth Firms?
5. Are the strategies taken by High Growth Firms in Hull different than the ones taken by High Growth Firms in other regions?

And furthermore, from the introduction and literature review presented, additional research questions were made:

6. How do High Growth Firms undergo digitalization to adapt their businesses to the COVID-19 situation?
7. How does digitalization allow these firms to keep their high-growth status despite the effects of COVID-19 towards the global economy?

B. Research Objectives

From the research questions above, respective research objectives are created which are to be completed throughout the research:

1. Determine how COVID-19 specifically impacted High Growth Firms in Hull.
2. Discover the various methods / strategies High Growth Firms undertook to maintain growth in COVID-19 times.
3. Examine how the UK government has helped High Growth Firms in Hull to withstand the COVID-19 impact.
4. Examine how public or private sector has helped High Growth Firms in Hull to withstand the COVID-19 impact.
5. Analyse whether there are differences in strategies in Hull compared to other regions.
6. Study different types of business digitalization that High Growth Firms undertook to respond to COVID-19.
7. Examine the impact of business digitalization towards growth in the COVID-19 impacted business environment.

II. LITERATURE REVIEW

A. High Growth Firms (HGFs)

Definition of High-Growth Firms vary across different literatures, which can also be referred to as 'gazelles' or 'rapid growth firms' [3], but in general they are firms who have successfully retained a minimum of 10% growth rate in their turnover and their employment growth for the past 3 years [15]. High Growth Firms have several characteristics in general: they constitute a small number of firms, can be from any industry, and admittedly a vital component of their own economy [6][11].

High-growth firms, as measured by employment expansion rates, account for a significant share of jobs created and are key players in economic growth [15]. High Growth Firms are deemed to be an essential stimulus as it increases productivity, competitiveness within the industry and most importantly, ability to generate job availabilities inside the market [13].

In general, HGF does show a linkage between technology and firm growth as these firms tend to be more technology intensive in comparison to an average firm [7]. Financing technology (18%) is not really an issue for High Growth Firms, who highlighted their most difficult barriers of growth to be the recruitment of staff (45%) [11]. In fact, highly growing firms highlights digitalization as one of their priorities, taking opportunities in technology to develop their business [17].

B. Business Digitalization

Digitalization in a broad sense refers to the change from analog tasks to that of digital tasks, done through the incorporation of Information Technology (IT) within present operations. It would define how digital technologies is utilized to change present business processes and, through the use of IT, seize new business activities such as communications or distribution. To be more precise, digitalization in a business setting is defined as "the use of new digital technologies such as social media, mobile analytics, or embedded devices) to enable major business improvements such as enhancing customer experience, streamlining operations, or creating new business models" [27].

Digitalization can easily adapt and transform values that a business offers to a customer, ensuring these businesses that undergo digitalization to stay relevant in a changing business environment landscape [5]. Therefore,

***ISBN**: 978-623-92201-2-9*

it is natural to utilize digitalization to counter the uncertainty and changing dynamics of the business world caused by COVID-19.

Furthermore, digital business models tend to design their activities in such a way that operations are able to be executed repeatedly at minimum costs [20] which allows these firms to save huge amounts of operation costs. Thus, we can conclude that digitalization offers flexibility and adaptability towards the constantly changing business environment. Firms who are not receptive towards digitalization risk endangering their growth, or even existence [8]. The statement before is ever more relevant, considering the business environment is becoming more and more uncertain due to the COVID-19 pandemic.

C. COVID-19's Impact on the Business Environment

sNumerous literatures believed that COVID-19 will present various challenges in the future [24][26]. These challenges include decreased purchasing power of customers, social distancing measures which severely hinder population mobility, supply chain disruption, cash flow difficulties, and many more [18][25]. However, this can also be viewed as business opportunities by firms or entrepreneurs, who view the pandemic as a "disaster entrepreneurship" opportunity [9]. The long-term impact of the COVID-19 pandemic is still very difficult to forecast, however scholars believe that firms will obtain more business opportunities post-pandemic by the utilization of digital technologies in their business models.

Entrepreneurs are used to the concept of uncertainty in the business environment [16], thus COVID-19 rigorously tested entrepreneurs' flexibility and adaptability in adapting their businesses to respond to the pandemic. Present standards Firms are also expected to achieve a "new normal" in how to run their businesses [16], which is one of the focuses of this research, to determine what forms of digitalization that is prominent in "the new normal" of business models in a pandemic-affected business environment.

D. High-Growth Firms's Performance in COVID-19

It has been well documented that High Growth Firms are more resilient during times of economic crisis compared to other firms [4]. Records of this resilience can be tracked back to the Great Recession, where study shows that throughout the Great Recession, existing High Growth Firms at that time managed to secure a huge growths during that period [1]. Granted, COVID-19 and Great Recession are different in characteristics, where compared to the Great Recession, COVID-19 is a pandemic that plagues everyone worldwide as it "does not discriminate" [14].

However, data has shown that again in COVID-19, we have High Growth Firms staying resilient, maintaining growth level or exceeding them. And it is highly presumed that digitalization plays a huge part on that success [22] due to the fact that High Growth Firms can easily adjust, transform, and adapt their products / service, their operation, marketing etc. through the use of Digitalization [19]. This is a perfect response towards customers that have changed their tastes and preferences through these changing times, allowing mentioned High Growth Firms to stay relevant in the eyes of the consumer [5].

III. METHODOLOGY

A. Research Approach

This research is set to discover the various impacts of COVID-19 towards High Growth Firms' performance in Hull, and their strategies and assistance obtained in order to survive / adapt / flourish in the pandemic period. Furthermore, we take a deeper look into the implementation of business digitalization of these firms and how it plays a role in the COVID-19 pandemic. Considering that we have two key variables in the research: High Growth Firms as a familiar factor in the academic world, and COVID-19, a relatively new factor in the world of business, we are tackling the issue of how a new factor (COVID-19) plays a part in the familiar factor (HGFs). Therefore, qualitative research is chosen, in order to establish variables and spot patterns to come up with a theory that would explain the behaviours observed towards a phenomenon that has not been studied clearly. Furthermore, the research will be structured based on a Grounded Theory Method.

B. Research Design

Grounded Theory is particularly well suited for investigating social processes that have attracted little prior research attention, where the previous research is lacking in breadth and/or depth, or where a new point of view on familiar topics appears promising [12]. The value of Grounded Theory is that it avoids making assumptions and instead adopts a more neutral view of human action in a social context [23]. As a general theory, Grounded Theory adapts readily to studies of diverse phenomena, where researches adapting the Grounded Theory Method can respond and change as conditions that affect behavior change.

Grounded Theory, in this case, is a good fit considering that it fits the "New Factor influencing Familiar Factor" framework of COVID-19 influencing High Growth Firms. There is little to no research that has studied how COVID-19 influences High Growth Firms. Furthermore, the study can be beneficial not only to High Growth Firms themselves, it could also be helpful to other Small to Medium Enterprises (SMEs) and startups who might be struggling and require some insights on how to adapt in this COVID-19 affected business environment. To add on, considering COVID-19 has been a very uncertain topic which is very uncertain throughout 2020, Grounded Theory will allow the opportunity for this study to be modified should it be necessary due to changes of

ISBN*: 978-623-92201-2-9*

circumstance due to the volatility of COVID-19 and new discoveries about COVID-19 that are yet to be discovered.

C. Data Sampling

These parameters are used in mind to determine which would be classified as "High Growth Firms":

- 10% Growth Rate in Turnover and Employment over the course of 3 consecutive years
    - Deviates from the 20% Growth Rate definition in OECD
- The companies are classified to 3 categories: Manufacturing, Services, and Social Enterprise
- They are further classified in terms of do they handle with Technology or not (Tech versus Non-Tech)
- The person interviewed from a particular HGF has to hold a relatively high position in the organisational structure, such as being the Founder, Co-Founder, or CEO. This is done in order to obtain the highest quality of insights obtained from these entrepreneurs considering they are the ones constantly involved in the decision-making process in the HGF.

The deviation of the definition of HGF here is done to enlarge the number of firms eligible to be a part of the research. Initially, the research followed the proper definition of HGF from OECD, where we managed to list down all the firms obtained from FEO as shown:

No	Industry	Notes
1	Services (Tech) - E-Commerce Consultant	Consistent ~10% Growth from 2016 to 2020
2	Services (Tech) – IT, Software	~10% Growth in 2017 to 2019
3	Services (Tech) – Digital Business Consultancy, focused on IT	High growth rates for the past 3 years, 90.9% in 18/19, ~30% on the rest
4	Manufacturing (Non-Tech) – Office Supplies, Furniture Distributor	Good growth rate, 12.6% in 16/17, 11.3% in 17/18, 10.7% in 18/19
5	Services (Tech) – Digital Media Creator and Consultancy	Good consistent growth rate for the past 3 years, above 10%
6	Services (Non-Tech) - Sea and coastal freight shipping	High growth numbers from 2016 to 2019 (+80% in 16/17, +227.5% in 17/18, +36.5% in 18/19)
7	Manufacturing – Signage and Event Graphics Manufacturer	Significant growth over 16-19, 113% growth in 16/17 , 62.6% growth in 17/18, 34.2% growth in 18/19
8	Service (Non-Tech) - Finance Leasing	Significant growth over 16-19, 117% growth in 16/17, 120% growth in 17/18, 79.9% growth in 18/19
9	Service (Tech) – IoT, Broadband	Significant growth over 16-19, 50% in 18/19, 50% in 19/20, 100% in 20/21
10	Service (Tech) - Software Development, IT Consultancy	Consistent Growth with high growth rates, 348% growth in 17/18, 19.% growth in 18/19, 191% growth in 19/20

Figure 2: List of eligible HGFs to be part of the Research according to OECD Definition

As shown from the Figure above, if we are to follow the 20% growth definition like OECD mentioned, that would only make 5 out of 10 High Growth Firms eligible for the interview (shaded green in the figure). Considering the low sample size that would invalidate the research, and difficulties in finding additional High Growth Firms in Hull that fits the 20% growth definition, thus a deviation was made on the OECD definition, decreasing the 20% minimum into 10% minimum growth, and added an additional parameter any period of three years, in to expand the list of eligible High Growth Firms to be part of the research.

D. Data Collection

This research uses both primary data and secondary data. Secondary data are obtained from the companies' database and accounts statement which can be found in the government's website. This data is used to determine which firms that are classified as High-Growth Firms from the list of firms found in the For Entrepreneurs Only database which is our main target on this research.

Primary data will be obtained from semi-structured interviews which is an effective method to collect data from interviewees who may have differing viewpoints on a particular concept [2], and interviewees are able to provide a more detailed and open explanations in a semi-structured interview [10].

With a semi-structured interview, the interviewer asks a set of questions of a same theme using predetermined questions, but varies in order in terms of questions asked and themes covered. An interview guide is developed to support the semi-structured interview process. This interview guide includes several predetermined questions that encompasses the whole research questions to fulfil all objectives of this research. This is done in order to attain consistency and develop an unbiased method in the data collection process. However, the semi-structured nature of the interview will allow us to analyse and have a deeper look into differing viewpoints of the different entrepreneurs, where questions related to a specific topic could be asked in order to study more and gain more insight from the interviewee on that particular matter.

In light of the COVID-19 pandemic, interviews will be done through online platforms, such as Microsoft Teams, Google Meet, or Zoom. All interviews were recorded for transcription, where consent of the recording will be asked prior of the recording.

Semi-structured interviews was chosen due to its advantages of being reliable. In structured interview, the interview questions have been standardized beforehand, thus it will decrease variability and thus increase the reliability of the assessment of the phenomenon. Furthermore, because structured interview follows a certain template, that template can be adjusted to ensure that all research questions are covered, thus ensuring complete coverage of the research objective. However, structured interviews are tied to its template, thus limiting the breadth and depth of the topic areas. This is why instead of a structured interview, semi-structured interview is chosen to eliminate the drawback mentioned – using a semi-structured interview allows relevant questions to be added on in the research to seek out further elaboration, understanding on the matter, thus allowing flexibility in the interview to expand the breadth and depth in the topic.

E. Data Analysis

As soon as the interviews have been transcribed, analysis is carried out using 3 coding techniques: Open Coding ⊕Axial Coding ⊕Selective Coding. The coding process includes 2 key steps: Step 1- Researcher assigns codes to various quotes in the transcript to classify or categorize it. Each statement of interest in the transcribed material was coded. A code can represent a certain theme. One code can be assigned to many quotes, and one quote can be assigned to more than one code, and codes can also contain sub-codes, which are subthemes related to the main theme.

The next step involves sorting the codes into categories based on how the codes are related and linked. The emerging categories were used to organize and group the initial codes into meaningful clusters. This involved breaking the interview data into discrete parts based on similarities and differences, where the researcher identifies any phrases that are similar in different parts of the material, patterns in the data or variances of any kind. These code categories were then used in subsequent data collection. The open codes that were conceptually similar were grouped into more abstract categories based on their ability to explain the sub-units of analysis.

All ten interviews were coded with the same method, and after several rounds of coding, a small set of generalizations were formulated. The coding process is facilitated by the software Nvivo 12, where transcribes were turned into codes, grouped into similar categories, and finally patterns and linkages were derived, which will be the basis for key insights and takeaways of the research.

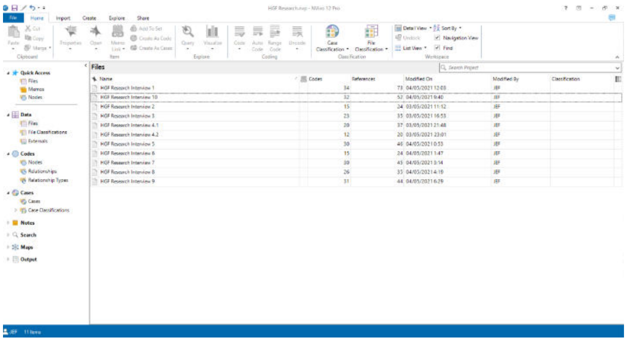

Figure 3: Display of Nvivo 12, with all Transcript Files uploaded

With the Nvivo software, all interview transcripts are uploaded, which is ready to be converted into Codes and its respective Nodes, as shown in Figure 3:

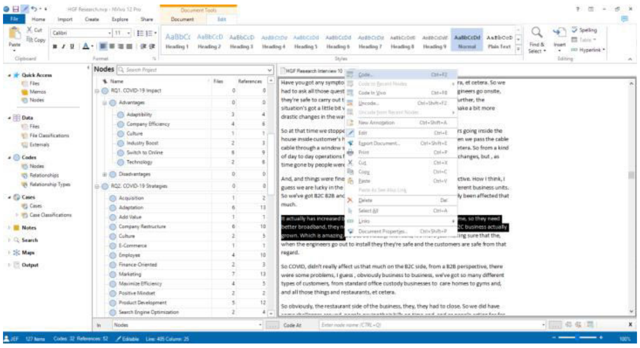

Figure 4: Making a Code

As soon as all the transcripts have been coded, the codes are tidied up into its respective nodes to prevent mismatch of nodes and other mistakes. Once that is finalized, the full list of Codes are turned into a "Codebook" which can be exported into the computer, giving us a full list of codes to be interpreted in the following chapter.

F. Research Limitations

The findings of this research may be limited in its relevancy in other geographic regions or other countries due to the fact that only High Growth Firms in Hull are considered in this study, due to the research being part of the main research that explores on the impact of COVID-19 on High Growth Firms in Hull. Furthermore, the research is only conducted through High Growth Firms point of view, despite there may be other firms who managed to grow in this pandemic, despite not being classified as a HGF. Thus, these factors may reduce the relevancy of how relatable / usable the conclusions of this research can be applied on other cases other than High Growth Firms, and other than Hull itself.

Another point that may affect the longevity of this research's relevancy is the volatility of COVID-19. With the current pandemic being highly unpredictable, this results in a very uncertain business environment that may render the research findings less relevant in the future due to the fact that the pandemic has affected these High Growth Firms in a different way or magnitude.

IV. RESULTS AND DISCUSSION

A. Hull as a Business Environment

It is important to understand the factors in play in Hull as a business environment in the eyes of High Growth Firms. Table 1 shows what High Growth Firms see as an advantage of having Hull as a business environment.

Being a small region, most High Growth Firms commented on how tight and supportive the community is, as several commented on how you can easily find support to help your business grow in Hull. Furthermore, the workforce you find in Hull are loyal, resilient, and also entrepreneurial, which are all ideal to support an SME or an HGF. Most HGF mention that they employ people from Hull, and serve people from Hull, which explains how connected the community is towards each other.

TABLE 1: ADVANTAGES OF HULL FOR HGFS

	Files	References
Hull as Business Environment		
Advantage		
Affordable	1	2
Community	5	10
Geographical Characteristics	2	3
Human Resource	5	11
Infrastructure	3	4
Tech-Savvy	2	3

TABLE 2: DISADVANTAGES OF HULL FOR HGFS

	Files	References
Disadvantage		
Bureaucracy	3	5
Culture towards Finance	1	3
Human Resource	4	7
Perspective	1	1
Skill Gap	1	2
Travel	4	6

However, High Growth Firms also commented that despite the positive traits of the workforce in Hull, there are several disadvantages or less than ideal factors that affect Hull as a business environment, as reflected by Table 2. First, the small number of population and the fact that many Hull undergraduates / graduates decide to work elsewhere such as Leeds, Manchester causes a small labor pool for High Growth Firms to choose from, leaving High Growth Firms struggling to find good talent because most of those talents went to other regions in the UK. However, this problem has dissipated throughout the pandemic, due to the fact that so many of the workforce have been furloughed and seeking employment again, allowing High Growth Firms to expand their employee with good talent.

Another "less-than-ideal" factor is the travel issue, where Hull is situated quite far from main areas like Manchester and London. Pre-COVID, this forces entrepreneurs to travel to meet customers or business partners which takes up too much time, energy, and costs. However, the pandemic has also alleviated this problem, due to the fact that people are encouraged to stay and work from home, thus meetings are done through online conferences instead, that despite may not have the same effect as a face-to-face talk, still is beneficial in a sense that these entrepreneurs have no longer need to travel far.

B. Impact of COVID-19 on High Growth Firms

COVID-19 has certainly affected High Growth Firms in various ways, be it positive or negative. All 10 High Growth Firms have a different take on how the pandemic has benefitted, or cost them in numerous ways.

Despite its universally adverse impact on the economy, there are still some positive impacts that coronavirus has brought to various industries in Hull, with High Growth Firms stating out several of those advantages as following:

TABLE 3: POSITIVE IMPACTS OF COVID-19

	Files	References
Positive Impacts		
Adaptability	3	4
Company Efficiency	4	6
Culture	1	1
Industry Boost	2	3
Switch to Online	6	9
Technology	2	6

One of the biggest advantages shown on Table 3 is how COVID-19 has switched businesses and lifestyle online, which certainly benefits businesses revolving in the online sector. Furthermore, High Growth Firms find that COVID-19 has forced companies to utilize technology to a greater extent, which further supports how companies can be lean and maximize its efficiency during the pandemic.

However, these advantages do not change the fact how COVID-19 has severely impacted the business world negatively, where more disadvantages in Table 4 felt by High Growth Firms are shown below:

TABLE 4: NEGATIVE IMPACTS OF COVID-19

	Files	References
Negative Impacts		
Adapting to Upscale	2	5
Adhering Social Distancing Protocols	6	14
Cyber Security Risks	1	1
Decline of SMEs	1	1
Drop in Employee Motivation	2	2
Drop in Sales	6	10
Fear of Working Outside Home	3	4
Financials	1	5
Furloughing Employees	3	3
Industry Change	3	5
Loss of Work Culture	1	1
Misinformation	1	2
Personal Challenges	3	4
Wellbeing	1	1

Unsurprisingly, the biggest disadvantages of COVID-19 is how it restricts our lifestyle and the way we carry out business due to Social Distancing protocols, which causes a decrease in sales for certain High Growth Firms. Also, companies are struck with financial issues, operational

ISBN: 978-623-92201-2-9

issues due to employees being afraid to work outside their homes, and adapting to the changes in industry or even up-scaling. Furthermore, personal challenges in this COVID-19 times is detrimental to people's mental wellbeing, and causes them to be less productive in this pandemic.

Similarities can be drawn from both tables in how most companies have issues in tackling social distancing measures, and in return, resort to technology / online to support their consumers, who have been forced to go online due to Social Distancing as well. But, these factors impact High Growth Firms in many different ways, where variance of variables that apply to different High Growth Firms is due to the difference in strategies implemented by these High Growth Firms, and the different characteristics of the people running or employed to the business.

C. High Growth Firms' Strategies to Combat COVID-19

TABLE 5: HGFS' STRATEGIES TO COMBAT COVID-19

	Files	References
COVID-19 Strategies		
Acquisition	1	2
Adaptation	6	13
Add Value	1	1
Company Restructure	6	10
Culture	2	5
E-Commerce	1	1
Employee	4	10
Finance-Oriented	2	3
Marketing	7	13
Maximize Efficiency	4	5
Positive Mindset	2	2
Product Development	5	12
Search Engine Optimization	2	3
Social Distancing Measures	1	4
Technology	6	9
Well-Being Care	1	2

COVID-19 has brought so much uncertainties into the business landscape, thus companies highlighted that the only way to thrive in a much different business world is to be flexible and adapt quickly to the rapid changes in the market. Adaptation is highlighted by almost all High Growth Firms interviewed, seeing that it precedes all other strategies stated, as shown in Table 5. Furthermore, High Growth Firms acknowledged that in times where the economy is currently down, restructuring their business model, review their fundamentals, revenue stream, and stay lean is key to success in surviving or even thriving in the current environment.

These adaptations are then implemented to the various key components of the business: it's marketing, product development, and its employees as well. Customer is the heart of business, and businesses have to be able to not only adjust their products or services to meet the changing tastes and preferences of customers, they have to be able to communicate their values, their offerings better through their marketing strategy considering how customers are more reserved in spending their remaining income or savings. Technology is also seen as one of the main reasons High Growth Firms are able to combat the effects of COVID-19.

Both employees and employers have had it hard, and High Growth Firms have given a good outline on how they strategize their way to maintain productivity: ensuring a good business culture help keep the employees' morale at a high note. Taking care of their employee by either providing them training to upgrade themselves, or even through the provision of companionship and support to ensure their mental well-being are good ways to inspire, where High Growth Firms believe that by trusting in their employees, that trust will be repaid in loyalty to the business/employers who have been there for them in hard times. Furthermore, employers must adopt a positive mindset to take care of their own well-being, and to not dwell on past mistakes they would've done through 2020. High Growth Firms voice out that, a strong leadership displayed by their employers is also a good way to nurture a productive business culture, where these leaders act as role models for the employees to set their sights to.

D. Government Assistance

Throughout the COVID-19 pandemic, various High Growth Firms from Hull have utilized assistance offered by the UK Government. Various schemes, are available for businesses to help them cope with the disruptions in the economy caused by the pandemic, which can be seen through Table 6:

TABLE 6: TYPES OF GOVERNMENT SCHEMES/ASSISTANCE

	Files	References
COVID-19 Government Assistance		
Government Assistance	0	0
Bounce Back Loan (BBL)	8	8
CBO Loan	1	1
Furlough Scheme	8	8
Government Blanket Grant	1	1
Government Website	2	2
Kick-Start Scheme	1	1

The most picked up schemes are Furlough Scheme and Bounce Back Loan (BBL), with 8 High Growth Firms acquiring them. However, not all High Growth Firms who took these schemes have used them. Several High Growth Firms voiced out that despite taking them, they have not used these schemes, especially for BBL who has no interest for the first 12 months, where they serve as a "backup plan" or "safety net".

Overall, the schemes receive good feedback from the High Growth Firms, since all the schemes (aside from government website, which offers information) provides financial aid towards different aspects of their business, be it through paying their furloughed employee's salary, or providing capital to invest in machineries, technology, etc. However, there are several critical feedbacks towards these policies:

TABLE 7: FEEDBACK TOWARDS GOVERNMENT SCHEMES

	Files	References
Government Policies Feedback		
Accessibility	5	11
Execution	7	15
Duration	1	1
Personnel	1	1
Policing, Monitoring	1	1
Temporary Fix	1	1

One of the most critical feedback is in terms of its execution, where as shown in Table 7, 7 High Growth Firms voiced out that the government could have carried out the execution of these schemes in a better way, considering that these schemes can be misused for one's personal gain without consequence, specifically for Furlough Scheme which has a lot of documentations of misuse. Another prominent topic is the issue of accessibility, where several sectors of the economy, namely self-employed entrepreneurs, are left ineligible to these policies, leaving them with limited help.

However, High Growth Firms understand the government's tough position where they have to be swift in their actions to help the economy, and still commend the rapidness of these assistance available to the government.

E. Public or Private Policy Interventions

Aside from the government, there are public and private sectors that also assists High Growth Firms in various ways. Listed in Table 8 are the list of names of public / private sector and their type of assistance.

Among the companies mentioned above, For Entrepreneurs Only (FEO) and Local Enterprise Partnership (LEP) are the most well-known. Both organizations are different in purpose, where LEP is more targeted for management assistance, FEO is more suited to be somewhat of a "support group" for other existing companies. However High Growth Firms inform that both organizations are helpful in providing information. Other organizations are focused towards providing loans / grants, such as Sirius, SparkFund, Acorn Fund, and other organizations are more focused in helping a respective industry.

TABLE 8: PUBLIC AND PRIVATE SECTOR POLICY INTERVENTIONS

	Files	References
COVID-19 Policy Interventions		
Acorn Fund		
Business Loans	1	1
Centre for Digital and Innovation in Hull		
Information Sharing	2	2
For Entrepreneurs Only		
Courses	2	2
Information Sharing	5	8
Support Network	1	2
Local Enterprise Partnership		
Business Management Assistance	1	2
Communicate Schemes Available	1	1
Facilitate Job Creation	1	1
Sirius		
Business Loans	1	2
Business Management Assistance	1	1
SparkFund		
Business Grants	1	1
Vistage		
Information Sharing	1	3

F. Forms of Digitalization to Combat COVID-19

As previously shown in 4.3., technology is one of the main methods of strategy High Growth Firms utilize to adapt towards COVID-19. Table 9 lists out all different forms of digitalization that the High Growth Firms undertook throughout the pandemic.

The unique observation here is that, most High Growth Firms in Hull have already been digitalized even before COVID-19. However, this is because most of these High Growth Firms come from the online / IT industry, which already demands them to be digitalized to be competitive in their market. These companies at the very most only implemented simple improvements on their backend system, such as improving data accessibility, updating CRM interface.

ISBN*: 978-623-92201-2-9*

TABLE 9: HGF DIGITALIZATION METHODS

	Files	References
COVID-19 Digitalization Methods		
Already Digitalised	6	7
Backend Optimization	4	8
Digital Content	2	2
E-Commerce	2	2
Employee Training	1	1
Invest in Technology/Cloud	4	5
Online Conference	3	4

Other companies who have yet to digitalize, however, considers that digitalization is essential to survive in the current business environment. One of the most common digitalization today, online conference, solves one of the biggest issues caused by COVID-19: population mobility. Furthermore, companies invests as much as they can in various ways: purchasing technology, importing everything into the cloud, spending resource to strengthen or start their e-commerce platform, or even consults external firm to study digital content to improve their marketing towards online customers.

TABLE 10: IMPACT OF DIGITALIZATION DONE BY HGFS

	Files	References
Digitalization Impact	0	0
Communication	1	4
Competition Edge	1	1
Customer Knowledge	1	1
Customer Relations	1	1
Efficiency	5	9
Employee Analytics	1	1
Finance	2	2

These forms of digitalization is done for one main purpose, as shown in Table 10: Efficiency. High Growth Firms embrace the usage of technology in order to be more efficient, which has been highlighted as one of the key requirements for businesses to not only survive, but grow during the pandemic. High Growth Firms recognizes that communication is also pivotal during the pandemic, thus the great focus towards online conference methods such as Microsoft Teams, Zoom, etc. Other purposes are done to complement the company's processes, ensuring the company to be leaner in its operations.

V. CONCLUSION AND RECOMMENDATIONS

A. CONCLUSION

At the end of the study, we have been able to see how High Growth Firms reacted and adapted to COVID-19. Based from the results obtained, we are able to answer the research questions curated in Chapter 1 from the findings of this research:

1. COVID-19 has impacted High Growth Firms of different industries differently, due to the difference in industry characteristics, the people on that industry. However, a similarity can be drawn where essentially all High Growth Firms and other firms face the same Social Distancing measures enforced by the government which impacts productivity and operations, and with social distancing, most sectors resort to becoming online, thus causing firms to have to adapt with technology and the Internet to conform with the changes in customer conditions.
2. Being flexible and adapting rapidly to changes in market is the key factor for High Growth Firms to overcome the COVID-19 impacted business environment and maintain growth – numerous High Growth Firms start or improve their digitalization by investing in new technology, engage in search engine optimizations or create digital content to improve their marketing online.
3. On internal level, companies need to ensure that morale of employees remain high – which is done through providing them training to fill out missing skills required in this pandemic, while also maintaining their mental well-being. Company leaders have to exercise leadership, trust, and promote a good business culture for employees to aspire and follow.
4. The government has provided numerous schemes throughout the pandemic period to ensure businesses are able to cope during this pandemic time, where government website becomes the central hub of information for everyone to see which schemes are they eligible to.
5. Most High Growth Firms think that the government has done enough in assisting the economy with these schemes, considering the sudden and urgent circumstances, however voices out that there are areas of improvement that can be made – mainly on the accessibility and execution of these schemes, where firms found out that these schemes can be misused for personal gain, whereas there are others who desperately need these schemes yet unable to gain access to those, leaving them to seek out public or private sector help.
6. The public and private sector has succeeded in providing additional assistance on top of the government, where various assistance such as financial loans, grants, or even simply information on COVID-19 conditions, employment opportunities, business management tips are available through different organizations across Hull. Feedback on these sectors are positive as their assistance is welcomed across the High Growth Firms.

***ISBN**: 978-623-92201-2-9*

7. While there are some High Growth Firms who just started to undergo Digitalization, the majority of High Growth Firms from the interview have stated that their companies have undergo a good extent of digitalization way before COVID-19 for various reasons: competitive advantage, better customer relation etc., thus leaving these firms to only improve their digitalization efforts as needed to respond to the changes caused by COVID-19.This shows that firms have looked into Digitalization not only as an appropriate response towards COVID-19, but as means to grow as a company by improving its business variables.
8. High Growth Firms main goal in digitalization is to achieve maximum efficiency during this pandemic by streamlining their business processes, specifically in bridging communication through the company staff members during this work from home condition due to social distancing protocols. Other processes such as marketing, training, finance are also improved by different forms of digitalization done by different High Growth Firms according to their needs.

B. RECOMMENDATIONS

The conclusions obtained above are then used to create several recommendations to different parties in the economy:

1. For Businesses

During these times of extreme uncertainty, all companies have to be lean and maximize efficiency in their operations. It has been proven that it is possible to still maintain or even increase net profit obtained despite losing turnover, which is due to company restructuring. Business owners and decision makers have to be flexible to the volatility of the market, and be ready to adapt accordingly through different product developments, marketing strategies, etc.

Both employers and employees have to be on top form and work as a cohesive unit, thus a trustful, inclusive work culture may facilitate that. Owners of High Growth Firms have shown that they are willing to make losses and spend for their employee's training, financial support, mental health care in Hull. Furthermore, Business Owners have to showcase good leadership in their conduct, leading their employees to remain focused on the company's vision and mission throughout the pandemic.

2. For the Government as Policy-Makers

Take feedback from existing firms who have used the policies / schemes offered in constructing new policies / schemes to be offered to the economy. Reinforce policing and monitoring of provision of schemes so that it will not be misused. The argument was last time, the government have to react swiftly in providing assistance to a drastically falling economy, however now that current COVID-19 conditions have gotten better as vaccine has started to roll out, it is okay to implement additional security methods that will ensure that these policies are not to be used for personal gain, instead being given to those who really need it.

3. For Future Research

Current research is limited due to its low sample size that comes from majority of one industry (IT sector), thus limiting the relevancy of results obtained and conclusions drawn for every single industry as it may not be relevant in their industry with different characteristics. Thus, a bigger sample size that encompasses more industries will definitely result in a more relevant analysis for all firms. Furthermore, current recommendations are taken from a qualitative data research which may become irrelevant, thus conducting a quantitative data research will improve the strength of current recommendations or even refute it as it finds new recommendations from those findings.

ACKNOWLEDGEMENT

To start, I would like to praise and thank God who has given me His blessings, wisdom, and support that enabled me to complete this paper.

Furthermore, I want to take this opportunity to thank everyone who has supported / assisted / contributed to the study from start to finish. Firstly, I would like to express my profound gratitude to Dr. Antonio Malfense Fierro, who acts as my supervisor for this dissertation. I would like to thank him for granting me the opportunity for be his research partner in this study that allowed me to explore and meet entrepreneurs all around Hull area, which was an unforgettable and extremely valuable experience. His unwavering guidance, support, and motivation is invaluable and pivotal that, without his help, this dissertation would not have been possible.

I would also like to thank Sharfina Nindita, who also acts as a fellow research partner to Dr. Antonio's study with me. Her guidance, tips and support has helped me get through the paper, and for that I am grateful.

I would also like to thank my beloved parents, Chandra Yudiarta Joe and Vinda Erliani for their unending support through my academic years in both SBM ITB and University of Hull. Thank you for taking care of me, for always providing the best support for me to complete this study and also my degree.

And finally, I would also like to express my gratitude to all my friends who are there with me throughout my life in university, your love and support helped me get through everything that was thrown at me, through the good and bad. I would also like to specially thank my best friend, Aulia Ismaya Khairunnisa, for her unrelenting moral support. Thank you for believing in me.

REFERENCES

[1] Anyadike-Danes, M., Bonner, K., Hart, M. and Mason, C. (2009). Measuring Business Growth: High-Growth Firms and Their Contribution to Employment in the UK. [online] Available at: https://www.researchgate.net/publication/277257755_Measuring_Business_Growth_High-Growth_Firms_and_Their_Contribution_to_Employment_in_the_UK.

[2] A. De Massis and J. Kotlar, "The case study method in family business research: Guidelines for qualitative scholarship," *Journal of Family Business Strategy*, vol. 5, no. 1, pp. 15–29, Mar. 2014, doi: 10.1016/j.jfbs.2014.01.007.

[3] F. Delmar, P. Davidsson, and W. B. Gartner, "Arriving at the high-growth firm," *Journal of Business Venturing*, vol. 18, no. 2, pp. 189–216, Mar. 2003, doi: 10.1016/s0883-9026(02)00080-0.

[4] Greene, F., Rosiello, A., Golra, O. and Vidmar, M. (2020). *Analysing Resilience in High Growth Firms at the Onset of COVID-19 Crisis*. [online] Productivity Insights Network. Available at: https://www.researchgate.net/publication/348000108_Analysing_Resilience_in_High_Growth_Firms_at_the_Onset_of_COVID-19_Crisis.

[5] G. Gupta and I. Bose, "Digital transformation in entrepreneurial firms through information exchange with operating environment," *Information & Management*, p. 103243, Nov. 2019, doi: 10.1016/j.im.2019.103243.

[6] M. Henrekson and D. Johansson, "Gazelles as Job Creators - A Survey and Interpretation of the Evidence," *SSRN Electronic Journal*, 2008, doi: 10.2139/ssrn.1092938.

[7] W. Hölzl, "Is the R&D behaviour of fast-growing SMEs different? Evidence from CIS III data for 16 countries," *Small Business Economics*, vol. 33, no. 1, pp. 59–75, Apr. 2009, doi: 10.1007/s11187-009-9182-x.

[8] S. Kraus, N. Roig-Tierno, and R. B. Bouncken, "Digital innovation and venturing: an introduction into the digitalization of entrepreneurship," *Review of Managerial Science*, vol. 13, no. 3, pp. 519–528, Feb. 2019, doi: 10.1007/s11846-019-00333-8.

[9] M. K. Linnenluecke and B. McKnight, "Community resilience to natural disasters: the role of disaster entrepreneurship," *Journal of Enterprising Communities*, vol. 11, no. 1, pp. 166–185, 2017, doi: 10.1108/JEC-01-2015-0005.

[10] J. Manning and A. Kunkel, "Making meaning of meaning-making research," *Journal of Social and Personal Relationships*, vol. 31, no. 4, pp. 433–441, Mar. 2014, doi: 10.1177/0265407514525890.

[11] C. Mason and R. Brown, "Creating good public policy to support high-growth firms," *Small Business Economics*, vol. 40, no. 2, pp. 211–225, Sep. 2011, doi: 10.1007/s11187-011-9369-9.

[12] P. J. Milliken and R. Schreiber, "Examining the Nexus between Grounded Theory and Symbolic Interactionism," *International Journal of Qualitative Methods*, vol. 11, no. 5, pp. 684–696, Dec. 2012, doi: 10.1177/160940691201100510.

[13] V. Mohr, E. Garnsey, and G. Theyel, "The role of alliances in the early development of high-growth firms," *Industrial and Corporate Change*, vol. 23, no. 1, pp. 233–259, Dec. 2013, doi: 10.1093/icc/dtt056.

[14] A. Moreira and R. Hick, "COVID-19, the Great Recession and social policy: Is this time different?," *Social Policy & Administration*, Jan. 2021, doi: 10.1111/spol.12679.

[15] S.-O. Daunfeldt, D. Johansson, and D. Halvarsson, "Using the eurostat-OECD definition of high-growth firms: a cautionary note," *Journal of Entrepreneurship and Public Policy*, vol. 4, no. 1, pp. 50–56, Apr. 2015, doi: 10.1108/jepp-05-2013-0020.

[16] J. C. Pinho and M. de Lurdes Martins, "The opportunity to create a business: Systemic banking crisis, institutional factor conditions and trade openness," *Journal of International Entrepreneurship*, vol. 18, no. 4, pp. 393–418, May 2020, doi: 10.1007/s10843-020-00275-3.

[17] H. Gimpel *et al.*, "JOURNAL OF INFORMATION TECHNOLOGY THEORY AND APPLICATION Structuring Digital Transformation: A Framework of Action Fields and its Application at ZEISS," 2018. [Online]. Available: https://aisel.aisnet.org/cgi/viewcontent.cgi?article=1726&context=jitta.

[18] M. Rapaccini, N. Saccani, C. Kowalkowski, M. Paiola, and F. Adrodegari, "Navigating disruptive crises through service-led growth: The impact of COVID-19 on Italian manufacturing firms," *Industrial Marketing Management*, vol. 88, pp. 225–237, Jul. 2020, doi: 10.1016/j.indmarman.2020.05.017.

[19] A. Richter, "Locked-down digital work," *International Journal of Information Management*, vol. 55, p. 102157, Jun. 2020, doi: 10.1016/j.ijinfomgt.2020.102157.

[20] I. M. Sebastian, J. W. Ross, C. Beath, M. Mocker, K. G. Moloney, and N. O. Fonstad, "How Big Old Companies Navigate Digital Transformation," *Strategic Information Management*, vol. 16, no. 3, pp. 133–150, Apr. 2020, doi: 10.4324/9780429286797-6.

[21] P. Seetharaman, "Business models shifts: Impact of Covid-19," *International Journal of Information Management*, vol. 54, p. 102173, Oct. 2020, doi: 10.1016/j.ijinfomgt.2020.102173.

[22] M. K. Sein, "The serendipitous impact of COVID-19 pandemic: A rare opportunity for research and practice," *International Journal of Information Management*, p. 102164, May 2020, doi: 10.1016/j.ijinfomgt.2020.102164.

[23] O. E. Simmons, "Some Professional and Personal Notes on Research Methods, Systems Theory, and Grounded Action," *World Futures*, vol. 62, no. 7, pp. 481–490, Oct. 2006, doi: 10.1080/02604020600912772.

[24] S. Thorgren and T. A. Williams, "Staying alive during an unfolding crisis: How SMEs ward off impending disaster," *Journal of Business Venturing Insights*, vol. 14, p. e00187, Nov. 2020, doi: 10.1016/j.jbvi.2020.e00187.

[25] J. Turner and T. Akinremi, "The business effects of pandemics – a rapid literature review," *Enterprise Research Centre*, Apr. 16, 2020. https://www.enterpriseresearch.ac.uk/publications/the-business-effects-of-pandemics-a-rapid-literature-review/.

[26] L. Veselovská, "Supply chain disruptions in the context of early stages of the global COVID-19 outbreak," *Problems and Perspectives in Management*, vol. 18, no. 2, pp. 490–500, Jul. 2020, doi: 10.21511/ppm.18(2).2020.40.

[27] K. S. R. Warner and M. Wäger, "Building dynamic capabilities for digital transformation: An ongoing process of strategic renewal," *Long Range Planning*, vol. 52, no. 3, Dec. 2018, doi: 10.1016/j.lrp.2018.12.001.