

**The Impact of Covid-19 Crisis on Product Development
- An analytical study -**

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Abstract:

Product development is the backbone of every company, but since 2019 and due to the covid-19 pandemic made it challenging to keep products relevant and evolve quickly. In this respect, the main purpose of this paper is to examine the effect of the COVID-19 pandemic on product development by covering some of the aspects this crisis has inflicted on product development and to determine how the pandemic has changed the way organizations approach product development. Information is collected through a content analysis of the different research resources related to the subject. According to the literature review and analysis results, it has been revealed that during the Covid-19 pandemic, which emerged unexpectedly and affected the world, brought along economic slowdown and uncertainties which forced companies to evaluate and reconsider their strategies and plans. The survival and success of companies in turbulent and uncertain environments as in this period is proportional to their products strategies, furthermore, with this crisis, the importance and urgency of developing products in some sectors have also emerged.

Keywords: Product Development, Covid-19 pandemic, Economic Turbulence, Crisis.

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1- Introduction:

In March 2020, the Covid-19 outbreak began to spread around the world, subsequently, the World Health Organization declared it as a pandemic. Now we are facing the COVID-19 crisis. Another crisis like many others, but this one has a huge impact on people's daily lives. It has affected communities on multiple continents and due to the spread of this virus, many countries have restrictions on social and economic life.

The application of distance rules and lockdowns has resulted in significant changes in people's product and service demands as they spend more time at home. The world has begun to demand products and services that were not required before the pandemic but specific to the pandemic period. In a crisis, people spend less; demand for certain types of products and services plummet. Reduced consumption of non-essential items and anti-ostentation have resulted from changes in consumer mindset and a recessionary era, as well as a focus on self and family, preventative and immune health.

Crises have a huge impact on business, during the COVID-19 crisis, Most businesses are facing the consequences of the economic downturn, And as social distancing and lockdowns continue, many of them are in a quandary on approaching the problem and in need to change the way they operate. And depending on the crisis, some companies may even have to shut down completely.

With the new waves of COVID-19 currently raging around the world, adapting to the 'new normal' has become a necessity for individuals and businesses alike. Organizations are dealing with rapid changes in their target markets as business and consumer needs are constantly evolving. It is very difficult in today's conditions for the survival of companies that cannot adapt to the changing world and changing market conditions due to the Covid-19 pandemic, this last has once again shown that companies that can quickly adapt themselves to changes in consumer needs and demands, act innovatively when necessary and become a pioneer in new products can successfully stand out in competitive and unstable environments, while companies that cannot well manage their production capacities and strategies have failed in this global crisis.

As a result of all this, Product development has become essential for businesses to quickly adapt to changing market needs, which has always been an important part of an organization's growth strategy. And as a crisis is a key facet that falls into the category of an unstable environment and therefore studying product development in such a situation is vital. In this respect, the main purpose of this study is to state the effect of the Covid-19 pandemic on product development.

2- Product Development

The economic success of most firms depends on their ability to identify the needs of customers and to quickly create products that meet these needs and can be produced at a low cost. Achieving these goals is not solely a marketing problem, nor is it solely a design

problem or a manufacturing problem; it is a product development problem involving all of these functions (Ulrich & Eppinger, 2012, p. 2).

Product development has been a major activity in the business for over years, and it is the key to the future in the business strategy. Each company has a product mix, often including hundreds of products, which is constantly evolving; old products dying, products reaching maturity, products contributing to rapid growth, and new products being introduced (Earle & Earle, 2001). The pressures for product development came very strongly from the needs of the growing markets for a constantly changing and extensive mix of products (Earle, Earle, & Anderson, 2001, p. 1).

Product development typically refers to all stages involved in bringing a product from concept or idea through market release and beyond. In other words, is the set of activities beginning with the perception of a market opportunity and ending in the production, launch, and delivery of a product to the target market.

There are 6 six commonly accepted types of product development projects identified in the following classification (Trott, 2017, p. 494):

- **New-to-the-world products:** These represent a small proportion of all new products introduced. They are the first of their kind and create a new market. They are inventions that usually contain a significant development in technology.
- **New product lines (new to the firm):** Although not new to the marketplace, these products are new to the particular company. They provide an opportunity for the company to enter an established market for the first time.
- **Additions to existing lines (line additions):** This category is a subset of new product lines above. The distinction is that, whilst the company already has a line of products in this market, the product is significantly different from the present product offering, but not so different that it is a new line. The distinction between this category and the former is one of degree (package sizes, flavors, and so on).
- **Improvements and revisions to existing products:** These new products are replacements of existing products in a firm's product line, which provide improved performance and increased added value. This classification represents a significant proportion of all product development projects introduced.
- **Repositioning:** Existing products that are targeted to new markets or market segments. These new products are, essentially, the discovery of new applications for existing products. This has as much to do with consumer perception and branding as technical development. This is, nonetheless, an important category.
- **Cost reductions:** This category of products may not be viewed as new from a marketing perspective, largely because they offer no new benefits to the consumer other than possibly reduced costs. From the firm's perspective, however, they may be very significant. The ability to offer similar performance whilst reducing production costs provides enormous added-value potential.

Product development—either refining existing products or creating wholly new products—is a key driver of organic growth for most organizations. Development and refinement of existing products drive clear value, from top-line revenue growth to cost

reduction. Comprehensive product development provides value to organizations by (The state of product development, 2020):

- Securing product success (83%)
- Driving revenue (81%)
- Increasing ROI (78%)
- Reducing risk (67%)
- Saving money (67%) and time (61%)

3- Product Development in Economic Turbulence

Economic turbulence creates the same impact on us as natural turbulence. The one absolute truth about the uncertainty that turbulence creates is that the longer it remains, the more cautious people become. Companies in these difficult times make more cautious decisions and tend to make across-the-board cuts. When it comes time to make cuts, marketing always seems to get the first swipe, and product development the second. Companies deeply reduce their marketing and product development budgets, or even put it on hold.

The fact of the matter is this: Economic uncertainty is like an elixir that can lead even the most skilled of CEOs to make serious mistakes when they fall under its influence. When panic spreads and reaches a peak, many business leaders retreat. When they are unable to predict their customers' expectations, they tend to abandon their core principles. They lower costs in all the wrong places. They fire talent, stay away from risk, cut back on technology and product development, and worst of all, they let fear dictate their decisions. This action will not only hinder a company but can even destroy it.

BusinessWeek compiled a list of the ten worst mistakes made by companies that are trying to cope during a turbulent or slowing economy. The list reminds managers that unless they really want to compete on price, the ability to do sustained innovation is one of the few ways left to maintain a competitive edge and to separate themselves from their competitors. Performance, growth, and stock market valuation are all driven by innovation.

Top-Ten Innovation Mistakes a Company Can Make During a Turbulent Economy (Nussbaum, 2008):

1. Fire talent.
2. Cut back on technology.
3. Reduce risk.
4. Stop product development.
5. Allow boards to replace growth-oriented CEOs with cost-cutting CEOs.
6. Retreat from globalization.
7. Allow CEOs to replace innovation as key strategy.
8. Change performance metrics.
9. Reinforce hierarchy over collaboration.
10. Retreat into walled castle.

It is natural for companies to be more conservative when there are budgetary concerns, but companies that don't take risks, don't invest in product development, will find it difficult to compete when the market is on the revive. Failing to invest in product development is guaranteed to hinder future value creation for the company and its stakeholders (Kotler & Caslione, 2009, p. 56). When companies disregard or reduce the importance of product development in an effort to save money, it not only limits potential growth, but it curbs innovation, market share and gives competitors who've taken the risk the driver's seat.

Companies that invest in R&D and product development when times are tough, on the other hand, will continue to make money. In fact, more than merely continuing to make money, they will be winners that always emerge out of the most difficult economic times and almost always beat their competition on the basis of something new (Kotler & Caslione, 2009, pp. 57-58).

4- The Impact Of Covid-19 On Product Development

COVID-19 has had complex effects on companies across the globe, not least in the way it has compromised the general product development cycle. Generally, It has been observed that the pandemic has led to changes on three levels (Petraikova, 2020):

On the company level:

- Your teams might be getting smaller, or functions are being severely reduced.
- Your teams may not be able to outsource work, given the availability, affordability, needs, and scale of your company.

On the product level:

- Your teams may not be able to deliver or provide the product, given the current situation.
- Your product updates and modifications take time, resources, research, and new concept ideation.

Lastly, on the market level:

- The market may no longer need the product you're offering.
- The market may not be able to receive/consume the product, especially if you're offline.
- Financial and consumption habits are changing rapidly.
- User habits/behaviors are also shifting rapidly—so too are platforms and routines.

When the COVID-19 crisis hit the market, companies started to look into these two perspectives (Torres, 2020):

- Preserve cash;
- Identify and adapt to changes in customer problems and needs.

First thing is to preserve cash. As people say, "cash is king". Good times or bad times, a company needs cash to pay wages to workers for the labor, pay suppliers for the supply and pay its tax debts. In order to continue to receive more cash, the company needs to be solving a problem or addressing a need of its clients (Torres, 2020). In a crisis, the client's problems and needs will probably change considerably, and here comes the interesting side, when the company focuses on identifying and adapting to those changes. With COVID-19, customer

problems and needs changed very fast, and the product manager and the entire product development team have to be even faster in order to adapt the product to these new needs.

The Covid19 disease has disrupted lives and social activities globally, and product development is no exception, as with the rest of society, product development practice has been changed by restrictions including working at home, no travel to suppliers or customers, uncertain demand, and the accelerated immersive adoption of new ways of working. Add to that the uncertainty of the crisis which could affect product development projects of companies. Governments impose varying degrees of restrictions, sometimes changing them suddenly, which is creating uncertainty for businesses. The companies are responding to these changes in various ways, certain companies are deferring innovation and product development while others are trying to adapt to keep projects alive.

Hanover Research, a firm specializing in market research and analytics, reissued its 2020 Product Development Survey to determine how the pandemic has changed the way organizations approach product development. The report, '*Product Development Reduces Risk and Increases ROI: An Assessment of COVID-19 Impact*', showed the following results:

- **Product development rises in importance:** In the wake of COVID-19, product development has increased in importance. More than half of executives report product development has become more important to the success of their business as a result of the pandemic. In fact, more than 2 in 5 organizations have launched product development-related activities as a result of COVID-19. However, this does not negate the substantial impact the pandemic has had on U.S. businesses, as nearly a third have had to stop due to the substantial impact the pandemic has had on the economy.
- **Executives need more certainty to launch a product:** The pandemic has made executives more risk-averse. Half of the executives indicate they need increased confidence levels when it comes to a product launch. In fact, nearly 80% say they need to be very/extremely confident a product will be successful to proceed with the launch, and half believe they need to be somewhat much more confident a product will be successful to move forward with the launch.
- **Product development drives additional impact:** In the context of COVID-19, executives increasingly see product development as a key driver of organizational success. Hanover's study shows double-digit increases in agreement that product development saves organizations time and money, which is more important than ever as budgets are reduced and constraints on staffing increase across sectors. Organizations are also increasingly using product development to identify and mitigate risk: a substantially increased proportion (+13%) of executives say product development helps identify unsuccessful products, and 10% more agree during COVID-19 that product development reduces the risk for the organization. Having confidence that an investment will generate revenue is imperative in the current economic climate for companies.
- **Executives increase emphasis on commercialization strategy:** Three key indicators show how much emphasis executives place on product development stages: the extent to which they feel the stage is non-negotiable, important, and impactful. Their 2020 State of Product Development report found Customer Needs to be the most critical stage in the PD

process; however, amid operating during COVID-19, Commercialization Strategy increased the most across all three metrics. This indicates an enhanced focus on how to bring products to market in a rapidly changing market that requires organizations to be strategic and intentional while being nimble to the changing demands of customers.

- **All product development stages have become more critical as market uncertainty grows:** Non-negotiable stages increased by double digits across the board, which reflects an overall emphasis on the product development process. This likely highlights the need to more comprehensively identify market gaps and product strengths and weaknesses in a contracting economy where consumers are spending more conservatively. Ideation, Target Market Analysis, and Business Case Analysis have the largest increases in perceived importance. Ideation may be seen as more important as it helps organizations generate new, fresh ideas based on changing market needs. Business Case Analysis has also increased in importance likely due to the need for a more rigorous due diligence process to help reduce risk, while Target Market Analysis is likely rising in importance given the volatility the pandemic has introduced into many sectors. When it comes to impact on the product development process, the Commercialization Strategy saw the biggest increase. Connecting with current and prospective customers is everything in times of uncertainty, so strategizing the best way to send a product to market is an essential part of successful product development.

There is another study of product development consultancy Mattson, California-headquartered. Which executed a survey of Food & Beverage Industry professionals in April 2020, In order to learn about attitudes and perspectives from leaders inside the industry. In particular, how they think COVID-19 might impact the future of food innovation, development, launch, and success with retail customers and consumers. The report *COVID-19 Impact on F&B Industry Innovation, New Product Development & Launches* has extracted 9 observations (Mattson, 2020):

- **Observation 1:** Innovation continues uninterrupted at most food companies.
- **Observation 2:** Many 2020 launches have been delayed or canceled, so retailers may find themselves considering two years of innovation for 2021 resets.
- **Observation 3:** Half of CPG Professionals believe that the long-term impacts of COVID-19 will be Positive for the industry.
- **Observation 4:** About half of those polled expect that retailers will be eager to bring in new products after the crisis subsides... and half expect them to be more tentative.
- **Observation 5:** Respondents were divided on consumer appetite for new products post-COVID (39% of consumers will want new products immediately, providing ample demand for pent-up innovation)
- **Observation 6:** In 88% of respondents believe that emerging or infrequently purchased brands and products have benefited from a new trial.
- **Observation 7:** COVID may have provided the boost that Big Food needed, with consumers rediscovering established “comfort” brands they’d stopped buying.
- **Observation 8:** Many believe consumers will want products that deliver value.
- **Observation 9:** While value, nostalgia, and indulgence stand out, it’s noteworthy that respondents expect demand to be strong for plant-based products.

A recent study from Food Processing which is the top U.S. news source for the food and beverage industry, tried through it to answer the issue: did the pandemic impact product development? And those are some of the headline results from their 2021 R&D Trends Survey report (FOOD PROCESSING, 2021):

- According to respondents “Really new” product development will be the top priority for this year (36%), This came in the context of answering the question: Which of the following (“Really new” product development, Existing product improvement, “Cleaning up” current products, Product line extensions, Cost control, Other) will be most important for your R&D efforts this year?.
- Nearly two-thirds of respondents said the pandemic forced some delays in new product launches, although 23% said the pandemic motivated them to create new products.
- The pandemic caused 64% of respondents to delay product launches for a handful of reasons, including the need to focus on existing/popular products (26%), plant shutdowns or R&D staff working remotely (21%), and financial or other business uncertainties.

Therefore, product development is one of the riskiest and complicated tasks for most companies. In product development, a crisis can be in the form of a sudden change in the environment such as a change in customer tastes after a new product has been launched, a new regulation imposed on firms in a particular industry, or a product recall (Samra, Zhang, Lynn, & Reilly, 2019, p. 6). During the Covid-19 crisis, Companies face increased competition, stricter standardization, and regulations, as well as changing customer behaviors and requirements. Under these factors, the product development process has become a challenge for companies as it requires extensive financial and human resources as well as time-sensitive. Lockdowns, social distancing measures, travel restrictions, uncertainties, and reduced capacities made it even more difficult to access these resources.

Product development is never immune from the crisis. In terms of the pandemic period, Berger has determined the product development challenges and backgrounds which can be explained as follows (Cetindas & Ozturk, 2020, p. 313):

- **Increasing global competition in all major markets:** During the Covid-19 pandemic period, international companies that develop products according to demand offer them to the world.
- **Shorter product life cycles:** Since it is not known how long the pandemic will continue, it is uncertain how long the new products will be in demand.
- **Higher failure rates in many industries:** Error rates of up to 60% of new products/inventions can be seen. This is a huge rate for businesses that have reduced their capacity due to the pandemic.
- **Early cost detection:** Some costs have also changed during the pandemic period. For instance, the price of nonwoven fabrics used in mask production has increased considerably due to high demand. Consumers' priority shifted to products with anti-virus properties, which brought additional costs even to standard products.

On the other hand, product development can deliver an organization from a crisis. In fact, many organizations are using the pandemic as an opportunity to think about their own survival. Firms experiencing a crisis often have unique opportunities of risking more on a

new product that can ensure their survival. And as Winston Churchill once said: "Never let a good crisis go to waste", so despite its threatening nature, a crisis can motivate firms to achieve superior performance.

5- Conclusion:

With the Covid-19 pandemic that shook the world since December 2019, the importance of product development was once again surfaced. Consumer needs and habits have changed very rapidly due to the pandemic affecting almost every sector, worldwide. The purpose of this study, which was conducted after the effects of the Covid-19 pandemic began to emerge, is to reveal the impact of this crisis on products development. This study fills a research gap by examining how a crisis impacts the firm's product development process. It, to some extent, extends the theories which suggest that successful firms should be able to adapt to a changing environment by using a combination of their competencies. In this research, the covid-19 crisis is viewed as an impactful aspect of the environment. It is suggested that product development can be an effective solution for this crisis.

As a result of the literature review and analysis, we found that the rapid changes in consumer needs due to the pandemic have altered products consumption patterns. Accordingly its incumbent upon companies to deeply explore customer needs and wants and market dynamics, develop products according to their needs, and adjust the way they do that to adapt to any unexpected changes and to ensure the success of their investments, because one of the important ways to differentiate from competitors and get ahead in the current global epidemic is to develop the products.

Companies are facing the biggest challenge so far — how to continue with business operations while dodging the effects of the crisis. Product development during COVID-19 continues to show optimal scope, but it would not be worth a dime unless there is a business continuity plan and an innovative mindset. Companies must understand new trends among their audiences right now, especially with regards to how they engage, with which topics they engage, and their purchasing power. Only then they can evolve their product, and adjust their offer.

COVID-19 is a test of time and demands all-around flexibility to sustain business-as-usual operations, and the real long-term effects of it on product development are yet to be known. However, companies must continue to focus on their product development programs which are critical for restoring their market share as the market revives. This will not only set an example for the current way of working but for the future way too. and that will also redefine business continuity planning with a strategic focus on product development.

Since this study is one of the first studies for the relevant field in the Covid literature, it is possible to say that the study will shed light on future studies. To further the study, researchers are recommended to investigate strategies related to product development during the pandemic period and Crisis Management in Product Development.

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