

DIGITAL ECONOMY EXTERNALITIES IN DISRUPTION OCCUPATIONAL: A CASE STUDY OF INDONESIA

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ABSTRACT

This article will discuss externalities caused by disruption to jobs in Indonesia, furthermore the urgency of this research is to avoid the formation of negative externalities that have the potential to occur in the future. This research was conducted in 2019-2022, the focus of this article is problem shifting that has the potential to occur in all types of work while changing the economic structure that occurs in society. This research is qualitative with indepth interviews with several public officials in Indonesia. The results of this study show that market mechanisms do not form a patent pattern, so that business people cause externalities. The third point is feedback in externalities that can be interpreted that the externalities that arise are so random between positive externalities and negative externalities. The fourth point is the positive and negative of the externalities correlated in the third point, this also puts the externalities of the digital economy as an openness of data that is important to know. The fifth point is the independence of the digital economy which is based on the development of innovations for each individual who has different capabilities. Furthermore, in the sixth point, externalities occur institutionally or individu, in this case institutionally what is meant is comprehensive on the fundamental structure of the business. The legal method in Indonesia has the disadvantage that it cannot prevent a negative externality that harms society.

Keywords: *Digital Economy; Disruption; Externalities*

INTRODUCTION

Disruption in the economic sector is a global issue that until now is still a serious discussion about how steps must be taken to deal with the disruption. The initial assumption to create a solid system in the face of disruption is through the use of blockchain, where each individual can see transactions made by other individuals (Garcia-Teruel, 2020; Konashevych, 2020; Nasarre-Aznar, 2018; Starr et al., 2021; Veuger, 2018; Wouda & Opendakker, 2019). Other studies state that digital economy transformation that results in disruption must be anticipated through the sustainability of tightening the supply chain (Al-Mansour & Al-Ajmi, 2020; Ali et al., 2021; Khan et al., 2022; Pujawan & Bah, 2022; Yu et al., 2021). In addition, anticipating the adverse effects of disruption can be done by changing business models and adjusting the ecosystem in the company (Alberti-Alhtaybat et al., 2019; Chen & Bellavitis, 2020; Cozzolino et al., 2018; Silva & Grützmann, 2022; Snihur et al., 2018; Volberda et al., 2018). This research aims to implement policy strategies to prevent negative externalities from

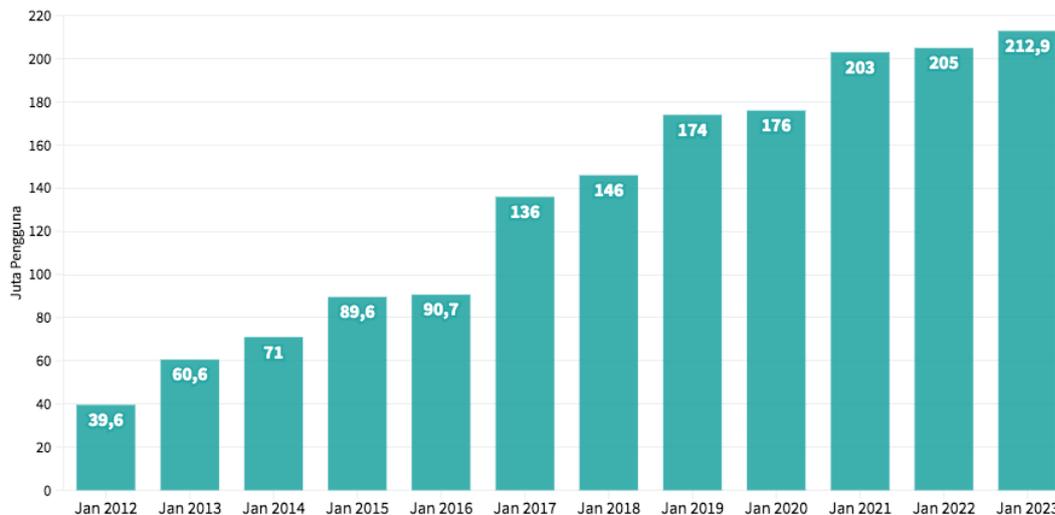
disruption and analyze potential disruptions that will occur in the future.

Digital economy is a concept that cannot be prevented from developing due to technological changes that occur (Appio et al., 2021; Hein et al., 2020; Klerkx et al., 2019; Petricevic & Teece, 2019; Teece, 2018). Digital economy refers to the economy that goes hand in hand with the use of digital technology, this can be interpreted that business treatment occurs through internet-based markets (Bukht & Heeks, 2017; Li et al., 2020; Liu et al., 2022; Ofoeda et al., 2019; Zhang et al., 2022). Some of the externalities of the digital economy are the opening of remote workers made possible through the use of technology (Abarca et al., 2020; Battisti et al., 2022; Donnelly & Johns, 2021; Fan et al., 2021). One form of digital economy is online commerce which is referred to as the marketplace, in this case the marketplace is one of the empirical problems that occur. Work can be carried out through online devices and is not limited in time that allows one to sell up to 24 hours. Unlike conventional jobs that demand a duration of time hours that result in a person

limited shopping time, more than that multiple interface technology allows training to be carried out online. Of course, this disrupts all work that was originally carried out directly. The calculation in terms of efficiency and effectiveness will certainly be very high, especially the main focus of online work is to shorten the time and process of the conversation.

Indonesia is the fourth most populous country in the world which is the largest potential owned by the country. The number of population is highly

correlated with the economic potential of a country, including economic growth (Hashmi & Alam, 2019; Marques et al., 2019; Simon, 2019). The contradiction is that when economic growth grows very fast, it will have a negative impact, namely the high level of economic disparity (Acquah & Ibrahim, 2020; Ofori et al., 2022; Opoku et al., 2019). Furthermore, empirical data on internet user data in Indonesia will be presented as follows:

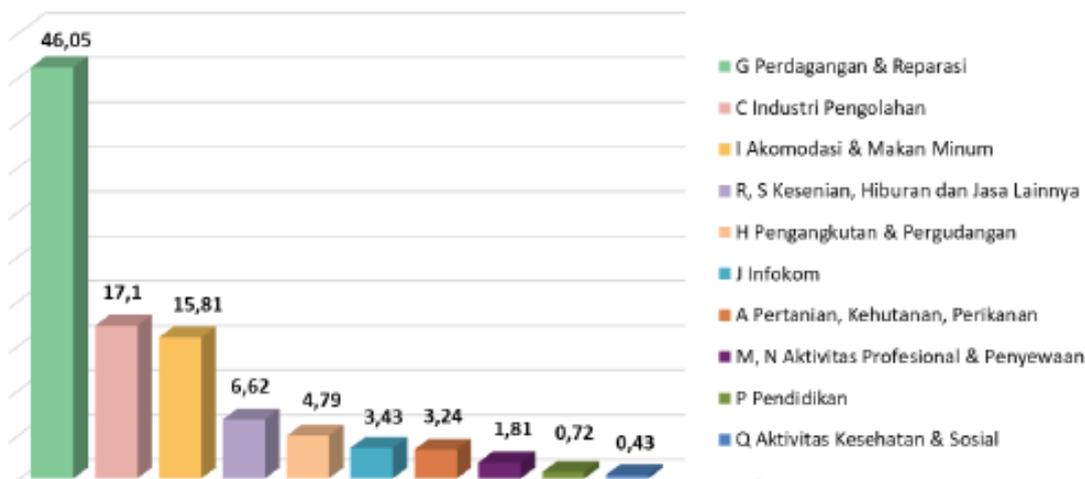


Source: (DI, 2023)

Figure 1. Internet User Data in Indonesia

Based on Figure 1, it can be explained that almost every year there is an increase in internet users in Indonesia. At least internet users have increased by 173 million in a period of 10 years starting from 2012 to 2023. This shows that internet users in Indonesia are very massive and are Indonesia's greatest potential strength to make a major contribution to the development of the

digital economy. Based on the activeness of social media used, Indonesia should be taken into account in the contribution of the world digital economy (Gani, 2020). Furthermore, online sales data in Indonesia will be presented which certainly has a high correlation to Indonesia's economic growth as follows:



Source: (BPS, 2020)

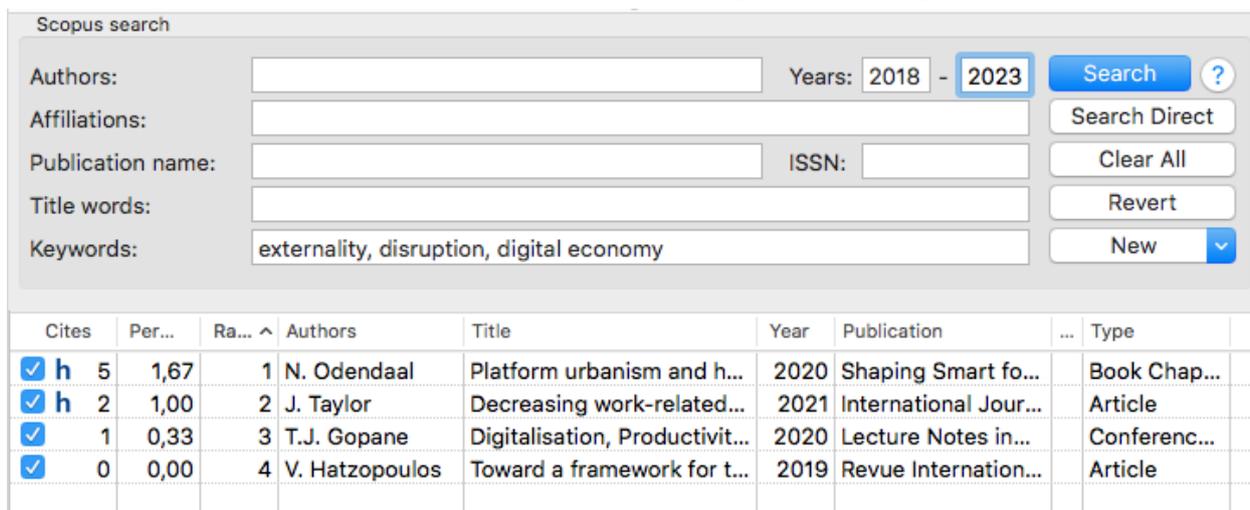
Figure 2. Online Sales in Indonesia

The interpretation of Figure 2 data shows that there are the highest sectors of online sales in Indonesia, the three highest sectors are 1) Trade and reparations with 46.05%; 2) Processing industry with 17.1%; 3) Accommodation and food & drink with 15.81. Furthermore, there are three sectors that are the lowest, namely: 1) Health and social activities with 0.43%; 2) Education with 0.72%; 3) Professional activities and rentals 1.81%. The trade and reparations sector is the highest in this context almost three times that of the next sector. This indicates that consumerism behavior is one of the impacts of the digital economy in Indonesia which will be discussed in detail in the next section.

This research uses at least two main theoretical tools in its analysis, namely externality theory and disruption theory. Based on the use of externality theory, it is the value of a transaction that shows the price of goods. The concept of externality has two main forms, namely positive

externalities and negative externalities, further this research will use the theory of externalities as an effort to explain the phenomenon of negative externalities. Externalities are characterized: 1) Produced by consumers and producers; 2) Outside the market mechanism; 3) Feedback occurs in the aspect of externalities; 4) Externalities can be either positive or negative; 5) Be independent; 6) Occurs institutionally as well as individually (Sarie et al., 2022). The use of externality theory allows research results that are structured and have coherent consistency.

The next use of theory is the disruption theory proposed by (Christensen et al., 2018). Disruption at least divides the two camps oppositely, namely the new entrant and the incumbent. New entrants are new business actors who have high innovation while incumbents are old players who are less adaptive in technological changes that occur. In more detail the concept of disruption will be explained as follows:



Source: (Christensen, 2015)

Figure 3. Implications of Disruption Theory

Based on Figure 3, it shows that there are two opposing camps, namely the new entrant and the incumbent. New entrants that succeed in disrupting are groups that carry out disruptive business activities, while new entrants that fail are groups that carry out business activities just like incumbents and tend to continue old ways that do not have innovation. While a successful incumbent is to maintain its business mechanism that has been going on, further a failed incumbent is an incumbent who indulges in disruptive business trips (Fajar et al., 2019). The use of disruption theory can explain the disadvantages and advantages of a phenomenon, so researchers

observe the importance of using the theory as well as concrete steps to overcome the negative impact of disruption.

State of the art research is based on the results of a combination of Harzhing Publish or Perish and Vosviewer applications that refer to the themes of digital economy, disruption, and externalities. The use of this application can explain differences in research based on the use of themes recorded in Google Scholar and Scopus. The following will be presented the results of the initial data processing of Harzhing Publish or Perish as follows:

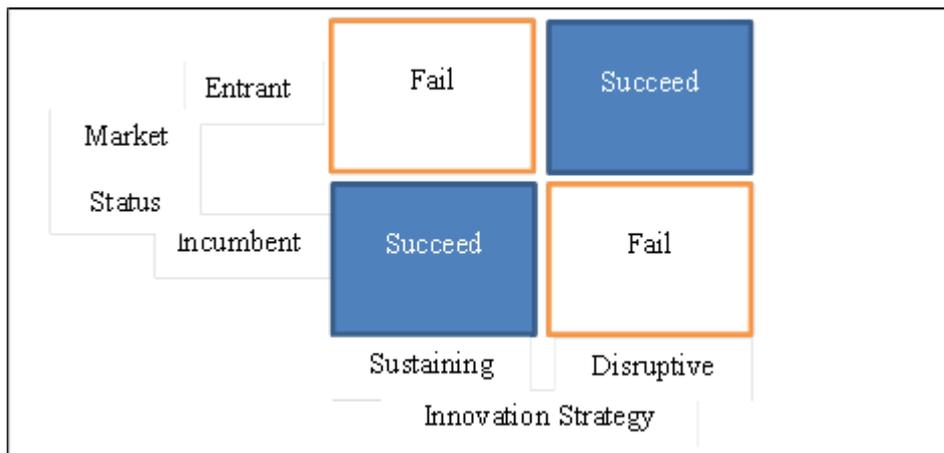


Figure 4. Harzing Publish or Perish Data Processing Results

Based on the results of data processing on the Publish or Perish application, it shows that the three themes used in this study were published by Scopus as many as four articles. This indicates that the use of research themes is the most recent theme and this article has the potential to become the next article in Scopus publications. The data processing

carried out refers to 2018-2023 with the keywords externality, disruption, and digital economy. Furthermore, the results of Vosviewer data processing will be presented based on searching for research themes on Google Scholar and Scopus as follows:

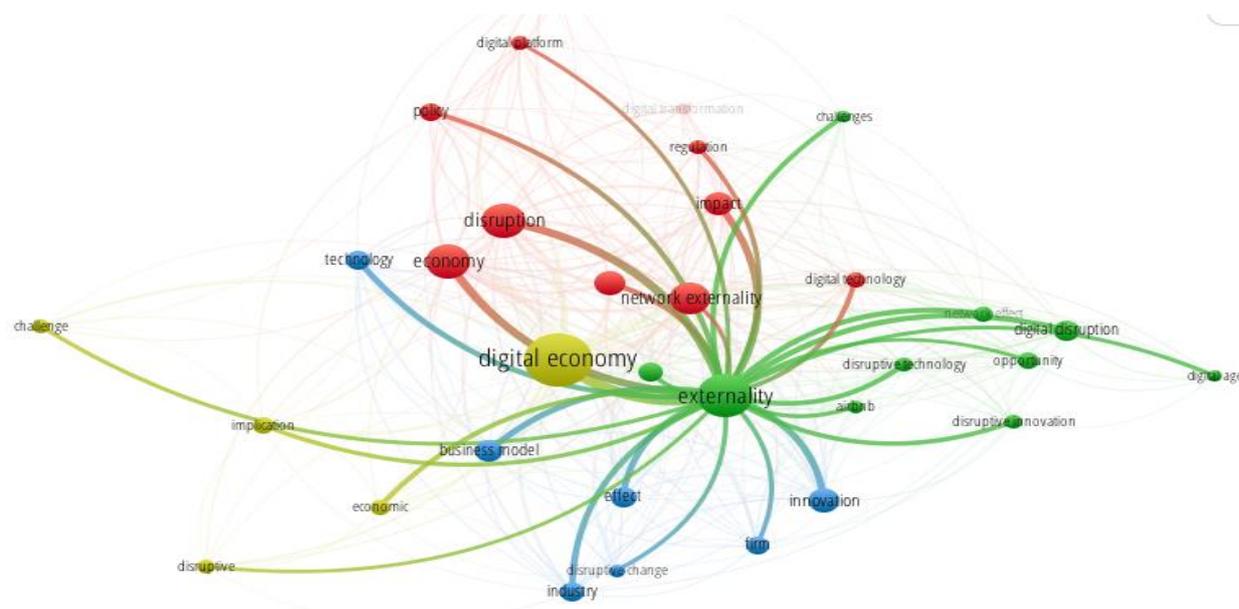


Figure 5. Vosviewer Data Processing Results

Based on the results of Vosviewer application data processing shows that the location of the state of the art research is based on the circle of Figure 5 about the relationship between the themes of externality, digital economy, and firm. This study will review the problem of shifting in work in Indonesia caused by disruption. The results show that the firm in blue has a small circle compared to others, this means that the firm's research theme has not been researched much so

that the novelty is very good. The results of this data processing are obtained from a combination of Harzing Publish or Perish application results based on Google Scholar and Scopus searches. In general, based on these results, it can be explained that the novelty of this research theme is very good and has the potential to have a wider impact on the development of externality, disruption and digital economy literature studies.

This article will discuss the externalities caused by disruption in jobs in Indonesia, further the urgency of this research is to avoid the formation of negative externalities that have the potential to occur in the future. This article is a research conducted during the period 2019-2022 and is part of the writing of the researcher's doctoral dissertation. The focus of this article is problem shifting that has the potential to occur in all types of work while changing the economic structure that occurs in society. The use of research locations in Indonesia is due to legal mechanisms in Indonesia unable to implement preventive measures to prevent the negative externalities of disruption and Indonesia is a country with extraordinary economic development potential with a population of around 275 million people in 2022.

The research objective will be completed through qualitative methods with in-depth interviews with several public officials in

Indonesia. The discussion section of this article will present a case study of disruption analysis that has the potential to occur in the future, and of course this article becomes literature on preventing these negative externalities.

RESEARCH METHODS

This research uses qualitative methods and data reinforcement based on the results of in-depth interviews conducted by researchers. In addition, this research collects at least documents, literature, and observations. All data used in this study are used to form a natural conclusion of research so that it can be used as a reference for policy and scientific development. The object of this research is the impact of disruption in Indonesia. This research informant was determined based on snowball sampling obtained from each interview conducted. Furthermore, some of the informants of this research are:

Table 1. Name of Informant

No	Name of Informant	Position
1	Zulham Effendi	Wadirreskrim Polda Jatim
2	Gus Fandi Akhmad Yani	Regent of Gresik
3	Teddy Harmono	Developer Specialist
4	Ijal Nahrawi	Chairman of the Standing Committee on Synergy of BUMD Kadin
5	Hj. Anik Maslachah	Vice Chairman of East Java DPRD
6	Muhammad Lutfi	Chairman of HIPMI Surabaya City
7	Yusuf Ibnu	Chairman of the Standing Committee on Competitiveness of the Chamber of Commerce and Industry

Source: Data processed by the Author (2023)

The research informants interviewed are the application of stakeholder analysis so that it is possible to obtain accurate data from representatives of each regional public official. This research was conducted at least during the period 2019-2023 and is part of the researcher's doctoral dissertation. Furthermore, data analysis techniques use triangulation based on in-depth interviews, documentation and observations made.

RESULTS AND DISCUSSION

Interpretation of Research Data

The results of interviews conducted in research ranging from 2019-2022 showed the results of diverse data variations. This analysis is based on stakeholders who hold certain positions, making it possible to obtain a more complex and accurate variation of data. The phenomenon of disruption causes job shifts that change the pole of economic foodism. This is supported by the results

of an interview conducted by Zulham Effendi as the Vice Director of Criminal Investigation of East Java Regional Police as follows:

"The digital economy produces a new paradigm that not all levels of society can respond well. Moreover, access to use the digital economy is not obtained by all people, of course, this correlates with public knowledge to prevent something bad from happening. The case of Binomo's fake investment is a serious lesson in Indonesia, lest any community be harmed. Therefore, we as public officials must take preventive steps to prevent it." (The interview was conducted at the East Java Regional Police Office on March 18, 2022 at 13.00 WIB)

The interpretation of the interview shows that the adverse effects of the digital economy

cannot be massively interpreted by all levels of society. The Binomo fake investment case shows job shifting that harms the layers of society, anticipation that must be done is the implementation of preventive measures from public officials. This statement is supported by the results of an interview conducted by Gus Yani as the Regent of Gresik as follows:

"Shifting jobs actually does not only occur during the digital economy, I think the main factor is the absence of market mechanisms that cause someone to switch to another job. The most dangerous thing is that when job shifting occurs and people are slow to respond, this will harm society at large. I will implement a strategy to increase innovation as an effort to overcome the process of shifting this work towards digitalization." (The interview was conducted at Gus Yani's residence on May 16, 2022 at 11:00 WIB)

Based on the results of the interview, it shows that the implementation of innovation improvement strategies is very important to respond to the shifting of work that occurs in Gresik Regency. Changes in job shifting occur very quickly and can be fully controlled, some things that can be done are the application of innovative paradigms in the future. Furthermore, job shifting caused by the digital economy can have a positive impact and increase regional revenues in terms of tax revenue. This was conveyed by Hj. Anis Maslachah as Deputy Speaker of the East Java DPRD who explained that:

"I see people are more productive today by relying on electronic transactions and online sales that can be used almost anywhere and anytime. The productivity of this society results in extraordinary economic transactions so that it will certainly correlate with an increase in the application of state taxes. Several new tax classifications are applied to endorsements, top-up transactions, and online payments. As a state apparatus, I support the productivity of this kind of society and of course we must properly accommodate public attention and interest in the use of electronic transactions." (The interview was conducted at the East Java DPRD Office on June 27, 2022 at 14.00 WIB)

The interviews conducted interpret that the digital economy causes a positive impact, namely

shifting jobs that make people more productive in the competition of economic mechanisms. This potential must be maintained by the government, at least due to the momentum of a very positive economic revival. This momentum becomes important in the effectiveness and efficiency of accelerating economic growth through state tax revenue. Externalities resulting from the digital economy at least require policy support from the government at the regional and central levels. This was stated by Teddy Harmono as a private party Developer Specialist as follows:

"The development of the digital economy requires full support from the government, especially in the property sector which is currently growing. In my opinion, people's economic growth is very explosive as one of the externalities of the digital economy. We can see game steamers and influencers who are arguably new jobs in the digital economy and they are very explosive. Even we as developers use the services of these influencers as a promotional medium for property investment." (The interview was conducted at Cafe White House Surabaya on August 26, 2022 at 19.00 WIB)

Based on the results of the interview, it can be concluded that government support is very important for the development of the property sector accompanied by the explosive growth of society. Private property parties use the services of influencers to increase and promote their sales, furthermore influencers are one of the job shifts caused by the digital economy. The emergence of influencers has become the acceleration and effectiveness of promotion and improvement of all sorts of products offered in online media. This is in line with a statement from Muhammad Lutfi as Chairman of HIPMI Surabaya City who explained:

"Influencers are needed in the field of promotion these days, empirical facts have also seen a lot that small MSMEs promoted massively by influencers suddenly increase their sales. The power of influencers is very dominating changes in people's consumptive behavior, I see influencers have a good multiplier effect. Of course, these influencers are young people who are creative, innovative, and communicative in marketing a product." (The interview was conducted at the East Java BPD HIPMI Office on September 8, 2023 at 14.00 WIB)

The interpretation of the interview with the Chairman of HIPMI Surabaya City explained that influencers increase MSME sales through the use of online media which has the potential to increase very significantly. This statement contradicts the results of an interview conducted with Yusuf Ibnu as Chairman of the Standing Committee on Competitiveness of the Chamber of Commerce and Industry as follows:

"Influencers are indeed an externality of the digital economy, but product differentiation from MSMEs themselves must be able to compete with the needs and desires of consumers. In my opinion, MSMEs that are trending as a result of promotions carried out by influencers only last a few moments when these MSMEs do not have identical product differentiation to answer the wants and needs of consumers." (The interview was conducted at the East Java BPD HIPMI Office on October 17, 2022 at 12.00 WIB)

Based on the results of the interview, it was explained that MSMEs must have good product differentiation and not only rely on influencer externalities that carry out product promotion. This is in line with the statement reviewed by Ijal Nahrawi as Chairman of the Standing Committee of Sinergy BUMD Kadin as follows:

"The presence of influencers is very important in increasing and stimulating the economic growth of the community at the middle to lower levels, besides that this is a positive impact of technological changes that occur. The concept of sharing economy and owning economy is very important to understand, promotional strategies are not carried out by business owners but other individuals who work together. This concept needs to be socialized more widely to the community." (The interview was conducted at the East Java BPD HIPMI Office on September 8, 2023 at 15.00 WIB)

Based on the results of indept interviews, it shows that the sharing economy must be socialized more widely to respond to externalities caused by the digital economy. In addition, the implementation of government preventive measures is very important to prevent negative externalities from the digital economy. Public concerns include regulatory irregularities, lack of

transparency and fair allocation of resources (Garnov et al., 2020; Sama et al., 2022).

Interpretation of the Theory of Externalities

The tools of the theory of externalities can be used to analyze phenomena that occur at a certain period. The implications of the theory of externalities initiate on: 1) Produced by consumers as well as producers; 2) Outside the market mechanism; 3) Feedback occurs in the aspect of externalities; 4) Externalities can be either positive or negative; 5) Be independent; 6) Occurs institutionally as well as individually (Sarie et al., 2022). The six characteristics described can be interpreted that in shifting work in Indonesia can be produced by consumers and producers, this is related to the innovation owned by each individual. Furthermore, market mechanisms do not form a patent pattern, thus allowing business people to give rise to externalities. The third point is feedback in externalities that can be interpreted that externalities that arise so randomly between positive externalities and negative externalities. Meanwhile, the danger that arises is individual behavior that tends to be egocentric which causes someone to be willing to cause negative externalities for society as long as his business can run well.

The fourth point is the positive and negative externalities that correlate with the third point, this also places digital economy externalities as data openness that is important to know. Furthermore, negative externalities inflict a disadvantage in this regard on the use of legal methods limited to normative and empirical. This correlates with the non-implementation of preventive measures in legal methods. The fifth point is the independence of the digital economy which is based on the development of innovation for each individual who has different abilities. Innovation and qualified capital support will provide the highest externalities in this context. Furthermore, in the sixth point externalities occur institutionally or individually, in this case institutionally what is meant is comprehensive in the fundamental structure of the business. Researchers analyze that institutional externalities will disrupt companies that implement the owning economy, furthermore, individual externalities will actually correlate with the positive impact of improving each individual to be able to compete in market mechanisms.

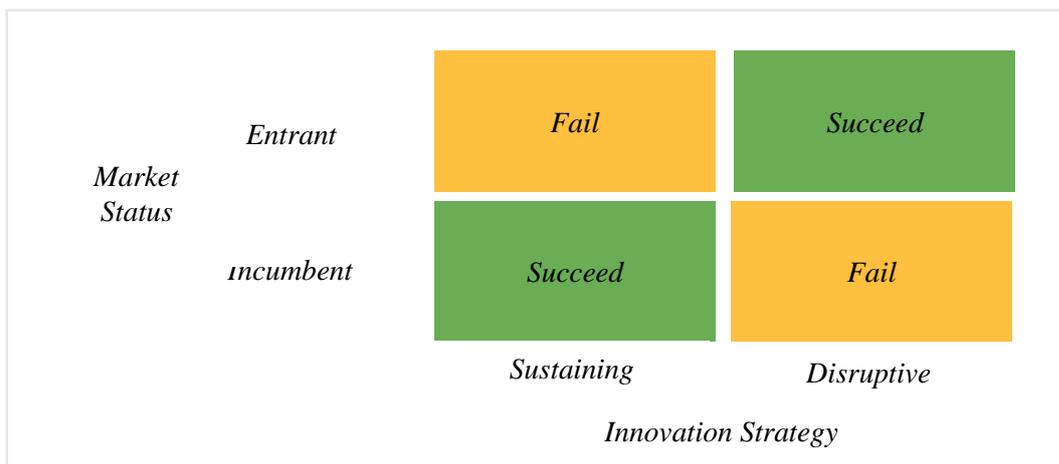
Individual externalities have implications for consumerism in Indonesia which increases the acceleration of economic growth. This acceleration must be well controlled by the government, so that

consumerism does not cause significant harm to society (Marina, 2020; Retnowati, 2022; Soenarno et al., 2022).

Interpretation of Disruption Theory

Disruption theory introduced by Christensen (2015) is the debate between sharing economy and owning economy which underlies the concept of disruption. Owning economy is the sole ownership of all means of production while

sharing economy is the means of production that are controlled jointly. The disruption of this economic mechanism was carried out by two opposing camps, namely the incumbent and the new entrant. Disruptions made by new entrants can affect the development of industrial evolution in the future (Adner & Lieberman, 2021). Furthermore, the concept of disruption initiates the success of the incumbent and new entrant as follows:



Source: (Christensen, 2015; Raynor, 2011)

Figure 6. Disruption Theory

Incumbents who can survive in the market mechanism are incumbents who maintain the continuity of their business and tend not to change the pattern of their business structure, while incumbents who fail are groups who disrupt their business to keep up with competition with new entrants. Furthermore, successful new entrants are groups that greatly disrupt the fundamental structure of the economy so that it seems to break the legs of the incumbents (Kasali, 2019). New entrants who fail are groups that follow the business patterns carried out by incumbents and tend to continue the pattern, this implies that new entrants will fail because the incumbents have mastered and mapped the business game more maturely.

The case in Indonesia in an example of shifting jobs, namely influencers, shows that this kind of new entrant creates a pattern of fundamental structure of new work and is very contrary to the pattern of work done by the incumbent. Based on the use of disruption theory that influencers can disrupt incumbents through new business structures, this implies that new entrants will experience success in competition.

DISCUSSION

The debate on the phenomenon of disruption externalities is the main context of discussion after technological changes that occur in almost all economic sectors. Airbnb's platform is evolving as a major player that allows travelers to have authentic experiences outside of environments never visited before (Anguera-Torrell et al., 2021; Griffiths et al., 2019; Huang et al., 2021; Nieuwland & Van Melik, 2020). The exploration of consumer motivations for kosnumerism behavior in the context of disruption was investigated by Kamolsook et al., (2019) through a comparison of network and technology externalities. Both of these concepts are debated and result in the conclusion that network externalities are stronger than stand-alone technology shifts. This implies that the incumbent is potentially more disruptive because this group has more control over the production network that has been going on. Successful new entrants must certainly strive to accelerate their innovation so that they can gain better trust in network externalities. The success of new entrants will correlate with the formation of a more patent and consistent brand image. Brand image can be developed through various support methods, one of

which is the omnichannel digital economy transformation (Cheryta &; Rudiantno, 2022).

Another view was conveyed by Cozzolino et al., (2018) about the importance of the reaction of major news publishers to provide information to the public about disruption that occurs. This consideration is very logical considering that there will always be a multiplier effect of a successful innovation, some of which are the public as if competing to implement the disruption raised in the media. In addition, the leadership of an organization determines how adaptive the organization responds to disruption, further the role of social media provides literature on community demands to be able to respond better (Yadewani et al., 2020). Syaleh Analysis (2019) leadership style and work motivation have a positive effect on the performance of employees, furthermore leadership style has an orientation to employee relations by providing opportunities to express ideas (Widjaja et al., 2019). At the organizational level, it can be maximized through the provision of certain promotions, allowing the workforce to have high loyalty (Idris, 2020). The estuary of organizational problems is the implementation of policy evaluations that aim to decrypt organizational problems in more detail (Rudiantno &; Cheryta, 2022).

CONCLUSION

Digital economy causes job shifting externalities in Indonesia, this causes a disruption to incumbents who are comfortable in certain business sectors. Market mechanisms do not form a patent pattern, thus allowing business people to give rise to externalities. The third point is feedback in externalities that can be interpreted that externalities that arise so randomly between positive externalities and negative externalities. Meanwhile, the danger that arises is individual behavior that tends to be egocentric which causes someone to be willing to cause negative externalities for society as long as his business can run well.

The fourth point is the positive and negative externalities that correlate with the third point, this also places digital economy externalities as data openness that is important to know. Furthermore, negative externalities inflict a disadvantage in this regard on the use of legal methods limited to normative and empirical. This correlates with the non-implementation of preventive measures in legal methods. The fifth point is the independence of the digital economy which is based on the development of innovation for each individual who has different abilities.

Innovation and qualified capital support will provide the highest externalities in this context. Furthermore, in the sixth point externalities occur institutionally or individually, in this case institutionally what is meant is comprehensive in the fundamental structure of the business.

The legal method in Indonesia has the disadvantage that it cannot prevent a negative externality that harms society. This is because the use of legal methods is limited to the use of juridical and empirical methods. Both methods cannot be applied as preventive measures so that there will always be losses incurred then legal legality appears and is formed. Researchers highlight this as one of the novelty of research so that in the future the use of legal methods can adjust to the concept of disruption that haunts almost every sector of the economy.

This research has limitations of analytical methods that cannot be measured numerically due to the use of qualitative methods that show more empirical problems of society. Further research is expected to use more complex methods so as to obtain better and measurable data accuracy.

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