

## ABSTRACT

Key Words : Big Data · Data Monopoly · Data Competition · Competition Policy

With the rapid changes in digital technology, business models formed by the use of digital technology are constantly seeking innovations and changes, driving the overall development of the digital economy. In the market environment of the digital economy, businesses must gain competitive advantages and continue to innovate effective business models to maintain market competitiveness under dynamic competition. The ability to grasp the "data" required for competition will have a key position. Therefore, the influence of "data" on market competition has become a critical topic in international competition policies in recent years. Especially for large digital information service providers, or international digital technology giants, it's important to use their advantages in market competition data through algorithms or related anti-competitive behaviors, and thus consolidate their market power or unfair competition. It is necessary to take into international cases, technology and characteristics of domestic industries into account, and to evaluate legal policies suitable for the domestic environment.

This report discusses the characteristics of relevant data-driven market and monopoly cases under the development of big data and hope to propose suitable enforcement direction and recommendations for domestic competition law. Since data monopoly under big data area is still highly volatile, the research scope will base on the resources available during the project period. This report is divided into eight chapters. Chapter One ( Introduction ) explains the research limitations and scope; Chapter Two ( Data-driven business model ) discusses the difference between traditional business models and data-driven business

models, highlighting five elements, including volume, velocity, variety, veracity and value. The process of generating data value, which is the value chain of big data, can be roughly divided into four stages: “data collection,” “data processing,” “data analysis,” and “data application.”

The aforementioned value chain of big data involves various professional fields and derives related professional data service providers. Gradually it constructs a product base on "data" or its related services, which offer various professional data service businesses, and assist other companies to optimize their business. In another case, it could be a single business entity that has sufficient scale, ability and resources to complete the above process on its own and use data as an “input” for the development or improvement of other products or services. According to the situation, the possible market characteristics or business models of the data-driven industry include the establishment of data scale, high-level data technology capabilities, demand for data engineering professionals, innovation and rolling upgrades. Besides, the provision of big data services or products through the platform may involve bilateral markets, economies of scale, network effects, free products or services, and information feedback loops.

Chapter Three discusses the relevance between data and market competition. Generally, if we look into this issue from the application of data of an industry, when data has the character of exclusivity, learning effects, network effect interaction, the existence of complementary assets, and the existence of competing commercial models, its market power may be formed or enhanced. In other words, owning data may not necessarily be competitive. It must depend on the purpose of the business’s usage of the data, and its actions, the role of data to

the business and the status of data market. In addition, the characteristics of the "data" itself may also bring competitive advantages and market power to the enterprise. For example, the concentration, interoperability or compatibility of data, imperfect limitability or rarity, etc., all contribute to the market power of the enterprise.

Therefore, whether there is a data monopoly should be case by case. Anti-competitive behaviors mainly include the following situations: mergers and acquisitions, exclusionary practices, or "market exclusion," data-driven price discrimination, and data-related market competition and privacy issues. Although whether competition law should be used as a means of protecting personal data or privacy has been discussed extensively, it is still controversial. Regarding the definition of the relevant market, the theory related to the data-driven market mainly include: revised SSNIP, SSNIC or SSNDQ, data as a separated market, and substitution demand principle.

Chapter Four sorts out cases and issues related to restraint competition of big data that have received more attention lately or have considerable development. It can be found that the current international practice focuses more on the abuse of market position by large digital service providers, which can be detrimental to data-driven market competition, especially in cases of abuse of market position and the discussion of combined cases. However, if international law enforcement agencies conduct appropriate extraction and integration of the focus of relevant case analysis, as well as the follow-up development of the case or related policy feedback, it will be helpful to assist the competition authority to thinking about subsequent law enforcement or legal policy.

Chapter Five discusses unfair competition concerning big data. Large technology platforms have achieved high market share due to network effects and economies of scale, and their behavior has raised the concern of competent authorities. With the accumulation of a large amount of user information, the platform can further use the resources and market power obtained by dual (or even multiple) roles on the market to conduct self-preference behaviors, which leads to unfair market competition. As far as our Fair Trade Act is concerned, there is no directly applicable provision and need to consider whether these kinds of behaviors constitutes the unfair situation under Article 25 of Fair Trade Act. However, how to segment the difference between lawful business competition strategies and unfair competition, and how to determine when is the best time for the public power to intervene in private business actions, and whether such intervention is limited to cases involving monopolistic or relatively dominant businesses, are issues that should be explored in the future.

For example, the Google and Amazon both used algorithm technology to enhance their competitive advantages. However, Amazon obtained commercial information from competitors via contracts, and may use this information to enhance the competitiveness of Amazon's own products or services. However, at today's stage, the "Principles of the Fair Trade Commission's Handling of Article 25 Cases of the Fair Trade Act," these kinds of conducts has not yet be specified. To make the application clearer, in the future, it may be possible to add a little bit changes to the "Principles of the Fair Trade Commission's Handling of Article 25 Cases of the Fair Trade Act".

Chapters Six is about the legal boundaries of data-driven competition. Regarding the trend of European competition law to expand the scope of

competition law, some scholars believe that this is the struggle between the United States and Europe Union (EU), mainly because the EU wants to resist the global dominance of certain data-driven businesses in the United States. In the context of data-driven business competition, it may not be appropriate to dilute the usage of existing competition law standard, such as the causal relationship between business behavior and harm to market competition, only because there are personal data involved. Especially, in Taiwan, data-driven industries are still developing and the structure of our personal data protection regulations are different from GDPR, whether it is necessary to follow EU's practice and expand the scope of competition law with personal data protection regulations should be considered carefully. A method worthy of reference is to propose a new way for merge review. The process of the usage of big data can be divided into three levels: acquisition, access, and analysis. Think about the upstream and downstream markets based on data acquisition, and use the "vertical mergers and acquisitions" review standard to deal with data-driven acquisitions might assist FTC to grasp the business's purpose and potential benefit of data usage related to those cases.

From Chapters Seven to Chapter Eight are the enforcement of competition law in the big data environment, and the conclusions. This report makes recommendations based on short-term immediate feasible and long-term policy plans:

(1) Suggestions that are immediately feasible

1. Establish reference elements for the definition of market power for data-driven related businesses.

2. Establish guidelines for the combined review of data-driven related businesses.

3. Strengthen case investigation and consultation mechanism.

4. Establish an external participation mechanism ( regular/irregular industry analysis/information expert participation mechanism ) .

(2) Long-term recommendations

1. Re-examination and discussion combined with the reporting threshold.

2. Thoughts on legal planning to promote the fairness and transparency of digital intermediary services.

3. Establishment of industry database or development of auxiliary law enforcement tools.

4. Enrichment of internal data analysis talents.

