Analysis and Proposal on Data Related Social Concerns and Challenges: A Catholic Social Teaching Approach

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Abstract.
From ancient times to the present, religion has had a significant influence on society and law. Dominated data-based companies have been subject to legal regulations and actions due to data breaches in recent years. As ‘the currency of the future,’ data needs highly sophisticated protection. However, the data-related regulations and laws that have been enacted globally are still in the progress of perfecting. It was found that the main challenges are: Data Security, Data privacy, and the Authenticity of Data. In order to go deeper into the above challenges, this study employed the Catholic critique of modernity and summarized the key definitions and concepts in data laws. Then analyzed the past dynasties of Catholic social teaching and formed five principles with real-world applications consequently. These five principles are human dignity, subsidiarity, solidarity and the common good, charity, distributism, and social justice. The study also examined the application and attitude of the constitutions and laws of the European Union to Catholic social teaching and then obtained the degree of influence of different political systems by Catholic social teaching. Finally, the study found how Catholic social teaching can further construct and improve data law and related issues and provide suggestions for improvement by comparing relevant cases internationally.

Keywords: Catholic critique, data laws, data security, privacy, social justice

1. Purpose and Methodology
In recent years, dominated data-based companies have been subject to legal sanctions due to data breaches, failure to implement appropriate security measures, re-using data without a legitimate basis, etc. It has become common sense, the data, as ‘the currency of the future,’ needs highly sophisticated protection. Although the data-related regulations and laws are still in the progress of perfecting, hundreds of those have been enacted globally. The data law is the essential one among all of the data-related regulations and laws. It could be a pioneer to be researched and perfected, then other data-related regulations and laws will be beneficial from the perfection.

From ancient times, religion has had a meaningful influence on the economy, society, and law. After identified the main challenges in enacting data laws while researched the characters of Constitutions and laws of the European Union countries, then employed the Catholic critique of modernity and Catholic social teaching, five principles with real-world applications are formed consequently. Finally, examined and referred the application and attitude of the constitutions and laws of the European Union to Catholic social teaching, suggestions are

91
proposed to utilize Catholic social teaching to construct and improve the data law and related issues.

2. Findings - Data Security, Data Privacy, and the Authenticity of Data, are identified as three main challenges to the data law

Data law is the term in general of regulations and laws regulating the relations in the process of collection, storage, analysis, use, dissemination, sharing, transaction and supervision of big data (Li, 2019). It takes privacy, personal information (data) and non-personal information as the main research objects, takes data privacy and security involved in the whole life cycle as the main research content (He, 2020).

Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data, always called as Convention 108 by the industry, released by Council of Europe in 1981, was the first international convention (Council of Europe, 1981). After 37 years, General Data Protection Regulation (GDPR), enacted on May 25th, 2018 in all member states of the European Union, was to harmonize the data privacy laws across Europe. GDPR was the first across border data law in the world. It enhanced data protection under law, provided data protection responsibilities and obligations to entities handling personal data and rights to individuals (Council of the EU, 2018). Differenced with Europe, the data law in federal level was not legislated in the United States, it took the free market with industry strong supervision model, the industries formulated the policies or Acts by themselves, such as Gramm-Leach-Bliley Act and Consumer Financial Protection Act in the financial industry, Children’s Online Privacy Protection Act (COPPA) for children under 13, Health Insurance Portability and Accountability Act (HIPAA) in healthcare industry, etc. On the contract, Australia launched the first federal regulation, the Privacy Act 1988, which was enacted in 1989, the Act in the states level were legislated too. Triggered by the serious data breaches case of Aadhaar (Chakrabarti & Sanyal, 2020), the India government formally established an Experts Committee to deliberate over a data protection framework in July 2017 under the chairmanship of former judge of the Supreme Court, Justice B.N. Srikrishna. The committee presented its report in July 2018 with Personal Data Protection Bill (Draft), 2018 to fulfill its mission of designing a framework to ensure the digital economy development whilst keep data security and date protected (Srikrishna, 2018).

Hundreds of Acts or Laws related with big data were legislated and enacted globally in past decades, some countries updated the Acts or Laws recently, however, Data Security, Data Privacy, and the Authenticity of Data are still three main challenges to the data law. Data law is the fundamental of other data-related regulations and laws, the main challenges should be specifically addressed.

2.1 Data Security

Protect data from attack has been one of the top priorities for most organizations as you can see how many Chief Information Security Officers (CISOs) have been on board. The honest CISOs cannot say with certainty that they haven't been hit, you can see how data breach is rampant.

2.2 Data Privacy

Data privacy is always a hot topic. There is a hidden risk of infringement of personal privacy. Personal information is facing risks of illegal or unfair collection, transaction and utilization.
2.3 The authenticity of Data
In the era of data creating significant value, the companies are seduced by huge profits, the officials are tempted by higher achievements in his career, falsify data is a way to facilitate them to achieve their goals easily. It’s said that garbage in, garbage out, the authenticity of data and the comprehensiveness of the data source are critical to the big data business.

3. Findings - The interaction of law and religion
Law is not only concepts and rules, is also a kind of relationship among people. Religion has played an important role for individuals, families and societies throughout history. Through the ages, the community of Catholic has actually transformed laws into the instruments of love. First, Catholics help strengthen the diverse types of the laws which hold together peoples of different racial, national and ideological loyalties – not only cover international laws in the traditional sense but also national laws which related with international activities, whether of business, of big data, of artificial intelligence, or of any other kinds. Secondly, if the law is excessive secularization then need be redressed. Catholics have the duties to influence legal development and legislations to make sure the law teaches religious truth.

4. Findings - Five principles formed by analyzing the past dynasties of Catholic social teaching
The Pontifical Academy for Life presented and promoted ‘Rome Call for AI Ethics’ on February 28, 2020, had Brad Smith (the President of Microsoft), John Kelly III (the Vice President of IBM), Qu Dongju (the Director-General of the Food and Agriculture Organization of the United Nations (FAO)) and Paola Pisano (the Minister for Innovation of the Italian Government) as first signatories. This event did not only show the Catholic Church is always keen to the high tech like artificial intelligence and big data, but also show its influential power. So it’s important to employ the Catholic critique of modernity, and analyze the past dynasties of Catholic social teaching, then identify the principles with real-world applications.

From the end of the nineteenth century, the Catholic Church has developed corpora of social teaching based on Scripture and Church Tradition and set forth in a body of texts, in particular, circular letters or social ‘encyclicals’ authored by the popes from Leo XIII (1878-1903). The Catholic Church views itself as competent to guide the spiritual and moral aspects of economic and political policies as those policies impact the good of human beings, made in the image of God (Fischer, 2009). The first encyclical, *Rerum Novarum* (1891), deliberated the Industrial Revolution cause social change so that focused on plights of workers (Pope Leo XIII, 1891). Since then, the Catholic Church has responded to lots of other civil, economic, social, and political issues, including the development of big data and resulting ethical issues (Pontifical Social Communications Council, 2002).

Usually abbreviated as CST, Catholic social teaching is a Catholic doctrine on the common good in society and matters of human dignity. CST has been trying to determine a balance between concerns to the wider society, including the poorest and weakest, and respects for human liberties, including subsidiarity and private property rights (Fischer, 2009).

Rooted in Scripture and articulated through written documents, Modern Catholic Social Teaching evolves over time to respond the challenges of the day. There are several key themes which are principles of CST and are at the heart of the Catholic social tradition.
4.1 Human dignity

Human dignity is one of the principles of Catholic social thought. Everyone has the right to own his own property, property ownership is an aspect of human dignity principles. CST certainly confirms ownership of both intellectual and real property. The Catholic Church teaches that private ownership is a natural right. CST has emphasized that the rule of law is essential in upholding the fundamental value of human dignity, but has also warned the rule of law itself may not always be sufficient to adequately protect human dignity (Miglior, 2008). The law is a social instrument for cultivating fundamental social and cultural values. If legal norms deviate from basic values, human dignity will no longer be safeguarded by the law (Fischer, 2009).

Constitutions of most Member States of EU proclaimed the principles of nondiscrimination rooted in catholic. Most of them do it in an overt way: all citizens have equal social dignity and everyone is lawfully equal, without distinction of sex, language, race, political opinion, religion, personal and social conditions.

Other Constitutions have similar provisions, for instance, Article 1 of the French Constitution and the Preamble to the 1946 Constitution, Articles of Irish and Spanish Constitution.

4.2 Subsidiarity

Using Beabout's etymology, the subsidiarity means that higher social units shall sit behind the lower social units to provide support and help when needed (Beabout, 2004). Another explanation is that subsidiarity actually indicates "to 'seat' ('sid') the service down ('sub') to the needs for the service as is feasible". Both explanations declare a hermeneutic of subsidiarity, it means that the responsibilities and action rights of upper-level social units are premised on their support and delegation to lower-level units (Hehir, 1998).

The nature of European unified into a Federation is associated with pursuing peace, justice and freedom which created a monolith rooted in the principles like personalism, subsidiarity, pluralism, and solidarism. A Catholic Europe, a decentralized federation rooted in the CST principle of subsidiarity, was tried to be built. Directed by the principle, the image of European federalism is being based on Catholic social theory.

4.3 Solidarity and the common good

Solidarity is commit to the common good, not just vague sympathy or superficial distress for the misfortune of others. Solidarity derives from faith, it is fundamental of the Catholic view of society and political organization. Everyone is collectively and individually related to and dependent on all humanity. Solidarity, which is required for social prosperity, is a true community which brings together people with different backgrounds to support and help each another, upheld by social institutions and laws according to fundamental values (POPE JOHN PAUL II, 1987). The Government has the duty to support basic unifying principles which will foster solidarity. The citizen also has the equivalent duty to work with the government to foster solidarity (Fischer, 2009).

The Catholic Church works as the guardian and interpreter, no more powerful intermediary than religion which could draw the rich and the working class together by reminding them with their respective duties, specially the duty of justice. The efficiency of the Catholic Church is multifaceted and amazing in preventing the conflicts or eradicating them.
Overviewed the constitutional clauses in the EU Member States, solidarity and the common good is the common language cross border. It is obvious that by maintaining a strict neutrality both with regard to individual religious denominations and to philosophical orientations and rationalist, the EU implements its commitment to deepening the solidarity between the peoples of member states, ‘while respecting their history, their culture and their traditions’, as stated in the Preamble of Treaty on the European Union (TEU) (Arnaiz et al., 2013).

4.4 Charity

The Catholic Church indicated that ‘Charity is at the heart of the Church’ in Caritas in veritate. Based on the teaching of Jesus, every commitment and responsibility expounded by the doctrine is stemmed from charity which is the compound of the whole Law. It is the principle not only of micro-relationships, but also of family members, friends, and classmates or within small groups.

State-church(es) relations in Europe affect a variety of public intervention, religious charitable involvement in the activities such as education, social assistance and health that have become the object of welfare public policies (Arnaiz et al., 2013). It is fair to agree that the constitutional settlement of religious issues seems to be quite rely on religious historical origins and development.

4.5 Distributism and social justice

Distributism is a school of social thought and economic developed by Catholic ideologists G.K. Chesterton and Hilaire Belloc which holds that social and economic structures should facilitate social justice, which is best served through an extensive distribution of ownership. In brief, distributism makes it possible for the most extensive numbers to acquire expertise and then join in the circle of exchange, as well as to develop their skills to fully utilize their resources and capacities (Abel, 2014). When impossible for a small group of people to snatch the legislature or to impose economic, social, and political norms in its favor.

The government should allot the appropriate attention to social justice, the justness of the distribution of productive property and wealth should be guided by regulations and laws (Devine, 1977).

5. Solutions

5.1 Utilize five principles to construct and improve Data Security issue in the data law

Data Security is a major challenge to the data law. When data security is talked about, the three major subjects of data security must be touched, the government, the organizations who utilize the data, the individuals who are the primary owners of the data. The government is always committed to protecting human rights offline and online, promoting a reliable, interoperable, secure, and open Internet, and supporting a vibrant digital economy. Hundreds of Executive Order (E.O.), regulations, Acts and laws have been enacted in countries, to enable the country to take effective steps to protect data securities, to provide criteria to identify software applications that might compose unacceptable risks, to develop further options for protecting data security and addressing the potential threat from the connected software applications. However, the national securities are always the top concerns than the benefits of organizations and individuals when the legislative institutions issue the law related with data.
security. The organizations, may have the legal workers in house, closely pay attention to the relevant legislative developments, may lobby the legislative institution for organizations’ benefits. The individuals, who are the primary owners of the data, are the weakest among three subjects, their voices are weakest to legislate, their benefits maybe the latest to be considered in the process of legislation. To balance the benefits of Data Security among government, organizations and individuals, the five principles of Catholic social teaching play a significant role, are utilized to construct and improve Data Security issue in the data law.

5.1.1 Based on the principle of human dignity, suggest to provide the perspective of third party by the Catholic

The data law should bring confidence rather than resistance to the organizations operating in accordance with laws and regulations. The clear provisions of the data law will facilitate the excellent organizations to create certain competitive threshold, as well as effectively prevent the effect of ‘bad money drives out good’, enable law-abiding and compliant organizations to catch opportunities in the market more accurately and effectively. However, there is not the channel for the organizations appealing against government agencies’ data security review decisions, the appealing roadmap is unclear whether the organizations may raise an objection on reasonable grounds if failing the review.

CST has emphasized that the rule of law is essential in upholding the fundamental value of human dignity, but has also warned the rule of law itself may not always be sufficient to adequately protect human dignity. To maintain the dignity and protect the rights of businessmen and organizations, the Catholic Data Security Review Committees could be established as the places for the organizations appealing against government agencies’ review decisions, the committees could provide the perspective of third party to facilitate the organizations and the government agencies reach the consensus.

5.1.2 Based on the principle of subsidiarity, suggest to graded manage Data Security

The subsidiarity means that higher social units shall sit behind the lower social units to provide support and help when needed. It guides the data law could segment the data by importance and then manage the data security by grade. According to the importance of data in economic and social development and the risks to public interests, national security or the legitimate rights and interests of individuals and organizations in case of disclosure, destruction, tampering, illegal acquisition and utilization, data shall be managed by classification of importance. Data related to national security, the lifeblood of the national economy, important people's livelihood and major public interests are belong to the national core data, the strict management should be implemented. For instance, automobile data could be segmented by importance. The vehicle flow data in important and sensitive areas such as military administrative zones, national defense industries and other places involving national secrets, those data security shall be managed by the state. The security of the data related with automobile charging network, vehicle types on the road, driving habits etc. could be managed by organizations. The data law could claim that States have the responsibility and right to ensure the security of important data bearing on their public security, economic security, social stability and national security, while empower the industry associations to propose the rule of graded management in data security for legislative institution ratifying and then come into force.
5.1.3 Based on the principle of solidarity and the common good, suggest to present and promote the Global Initiatives by the Catholic

The world-wide well known data scientist Viktor Mayer-Schönberger always says that Big Data changes the face of everything from scientific discovery and product development, to human learning and transportation, health care, retail, marketing and finance. Digitalization is transforming every aspect of the economies and societies, data is becoming an important source of economic growth, and its effective utilization shall contribute to the social well-being in all countries. As a key element of digital technology, the aggregation and explosive growth of data, has played a critical role in reshaping people’s lives and facilitating innovative development, bearing on security, social and economic development of States. However, in recent years, data sharing and data security has become a new topic of international confliction, competition and cooperation. Some countries insist data is about national sovereignty, the efforts of international cooperation in the field of big data have been frequently frustrated. In G20 Osaka Summit 2019, India refused to join in the talk about Osaka Declaration on Digital Economy (G20, 2019), because of its position of data localization against globalization, while Indonesia and South Africa expressed opposition to cross-border data flow and agreed with the value of data localization, refused to sign the Declaration. It showed the risks of fragmentation of data cooperation among countries in the world. The Ministry of Foreign Affairs of the People’s Republic of China, declared Global Initiative on Data Security on September 8th, 2020, underscored states should handle data security in a comprehensive, objective and evidence-based manner, and maintain an open, secure and stable supply chain of global ICT products and services (FMPRC, 2020).

The Catholic has a far-reaching influence on the world. The Pontifical Academy for Life promoted ‘Rome Call for AI Ethics’, governments, international organizations, ICT companies, technology communities responded positively.

Solidarity is commit to the common good. Under the principle of solidarity and the common good, the Catholic could present the Global Initiatives to call on all States to put equal emphasis on development and data security, and take a balanced approach to technological progress, economic development and protection of public interests and national security, request governments, international organizations, civil organizations, ICT companies, technology communities, individuals and all other stakeholders to make concerted efforts to promote data security under the principle of joint contribution, extensive consultation and shared benefits.

5.1.4 Based on the principle of charity, suggest to establish the Catholic Data Security Review Committees

The establishment, composition, procedure design, and other aspects of the cyber security and data security review regime vary from country to country. Currently, the security reviews in many countries are mostly led by the communications department, but there are also examples of multi-department joint review. For instance, the national security review in the US is undertaken by the Committee on Foreign Investment, which is composed of nine departments including Department of the Treasury and Department of Justice, and is responsible for organizing investigations. Similarly, the security review in Russia is led by the Ministry of Industry and Trade, who will consult with the Federal Security Bureau and the Committee of State Security for decision review and assessment (CAC, 2015). Although the review system is there, the government has the pressure of economic development of the country, the organizations are driven by performances and profits, either the security review by government agencies, or self-review by organizations, may be bias, the benefits and interests of individuals
may be ignored. Data security reviewed by third party other than government agencies and organizations could overcome the potential bias.

According to the teaching of Jesus, each commitment and responsibility expounded by the doctrine is stemmed from charity which is the compound of the whole Law. Recommended to establish the Data Security Review Committees by the Catholic. The organizations assess data security of its project first, then pass to the Catholic Data Security Review Committees to review from the ethics perspective and identify if individual interests is damaged, the Committees have the power to reject the project, mandate to revise, agree to submit for government agencies’ review. The government agencies will not review the projects without the endorsement of the Catholic Data Security Review Committees.

5.1.5 Based on the principle of distributism and social justice, suggest to organize the regular forum to train government personnel by the Catholic

The government agency and its personnel are legally bound by the general confidentiality obligations prohibiting them from using the data, information and insights obtained from the data security review process for other purposes. The data law itself may not clarify and refine the scope of the confidentiality obligations of the government agencies and its personnel. To be specific, the government agencies and its personnel are obliged to keep the intellectual property information, the business secrets, and other non-public information confidential, comprehensively protect the interests and rights of organizations.

Social justice is the moral foundation of good governance. The government agencies and its personnel are required a sense of social justice, as their roles and positions invest them with the rights and obligations to influence policy and make value-laden choices that enable the organizations create wealth and the individuals to lead fulfilling lives (Abel, 2014). The Catholic Data Security Review Committees could take the role to organize the regular forums for the government agencies and its personnel who take in charge of data security review, to facilitate them allot proper attention to social justice.

5.2 Utilize the principles of solidarity and the common good, charity, distributism and social justice to construct and improve Data Privacy issue in the data law

5.2.1 Based on the principle of solidarity and the common good, suggest to present and promote the Global Initiatives by the Catholic

The network has the openness and borderless nature, in the era of big data countries have closer ties and more complex social problems. Different countries will be involved in the protection of the rights to data privacy, the data laws of various countries will be involved in the jurisdiction of cases, legal application etc.

For the solidarity and the common good of human beings, the personal data should be shared between countries according certain rule and norms. The Catholic could present the Global Initiatives to call on all states should explore the international situation and formulate clearer and more forward-looking detailed standards to better protect its citizens personal privacy all over the world, whilst all states should strengthen exchanges and cooperation with other states on the protection of data privacy, urge all states actively join in international treaties or international organizations to protect data privacy to meet the requirements of protecting data privacy in the era of big data.
5.2.2 Based on the principle of charity, suggest to combine the industry self-discipline norms with data law to protect data privacy

While the individuals enjoy the personalized and considerate services provided by big data, the industries and enterprises also enjoy the huge profits brought by big data. The enterprises handled data privacy information do not have unified standards for supervising privacy data. The rapid development of the network makes all kinds of new tortious conduct emerge one after another, the privacy data could be illegally traded after being arbitrarily collected and utilized by some profiteers, resulting in data breaches. However, the lag of the data law determines that it is unrealistic to solve it completely by legal.

Nowadays, the individuals share personal data in good faith for technological progress, social development and economic growth, organizations should have self-discipline and properly manage personal privacy in good faith, which is the principle of charity. Industry self-discipline refers to the formulation of rules and regulations by industry associations to regulate organizations’ behavior. The industry self-discipline has great advantages in data privacy management as there are great differences in dealing with data privacy in different fields and industries. As the complementary of data law, the industry self-discipline could strengthen the education and behavior supervision of staff, ensure that relevant managers at different levels master the corresponding range of privacy data and information, and standardize the process of data privacy management. By combining the industry self-discipline norms with data law, the data privacy can be truly protected from damage.

5.2.3 Based on the principle of distributism and social justice, suggest to update the criminal law, civil law and administrative law to keep pace with data law

The establishment of data law reflects the obligations of data processors and the rights of citizens in the process of collection, storage, analysis, use, dissemination, sharing, transaction and supervision of big data. As a special law, the data law can not cover the scope of criminal law, civil law, administrative law. To reflect social justice, the laws in those areas need be updated to keep pace with data law in the era of big data. For instance, in the area of criminal law, it is particularly important to clearly define criminal offences and criminal penalties in the case of data privacy. A large number of cases of violations of the right to data privacy in the real world, therefore, it is urgent to determine the relationship between the rights, obligations and responsibilities of citizens and data processors in the civil law. The administrative law should stipulate the administrative responsibility and relief measures when the data privacy is infringed by the government agencies.

5.3 Utilize the principles of human dignity and subsidiarity to construct and improve the Authenticity of Data issue in the data law

To create economic and social value, the Authenticity of Data is the base of big data and the related business. Therefore, the owners of the data and the data processors in the enterprises play an essential role in the Authenticity of Data.

Refer to the principle of subsidiarity, each group needs to take their responsibilities and obligations, so the endorsement of the authenticity of data by each group is recommended to become the prerequisite for the contract validation or processing to the next step in the big data business. For instance, the claim of the Authenticity of Data must be endorsed by each party before the contract is signed and valid.
Refer to the principle of human dignity, the owners of the data and the data processors in the organizations could be encouraged to become more self-discipline and well-behaved in the process of data management. Furthermore, the Catholic could present the Global Initiatives to call on the people to keep the authenticity of data.

6. Conclusions

Data Security, Data Privacy, and the Authenticity of Data are identified as three main challenges to the data-related regulations and laws. In addition, human dignity, subsidiarity, solidarity and the common good, charity, distributism and social justice are five principles formed by analyzing Catholic social teaching. Guided by analyzing and utilizing the principles to overcome three main challenges to data law, then provide suggestions to construct further and improve data law and related issues.

As a summary, first, from a legal perspective, the graded management of data security is recommended to be inserted into the provision of data law, while the criminal law, civil law, and administrative law should be updated to keep pace with data law in the era of big data. Secondly, industry associations should consider establishing the industry self-discipline norm as complementary of data law from an industry perspective. Thirdly, the Catholic has a far-reaching influence on the world, the Catholic could present the Global Initiative to call on Data Security, Data Privacy, and the Authenticity of Data, the Catholic Data Security Review Committees could be established as the third party to coordinate among individuals, organizations, and governments. Furthermore, business partners' endorsement of the Authenticity of Data is advised to become the prerequisite for the contract validation or processing to the next step in the big data business.

References


