LAMBTON COLLEGE

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**A Report on**

[**Infonomics]**

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A Group assignment explaining How to Monetize, Manage, and Measure Information as

an Asset for Competitive Advantage

Big Data Analytics DSMM

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Abstract

The economics of information is known as Infonomics. The study provides a framework for businesses to manage, commercialize, and value knowledge as a genuine asset. To understand well the study of unique characteristics of how information could be relevant, complete will help. To monetize the information several methods were introduced, and some are Increasing customer acquisition/retention, creating a supplemental revenue stream, and entering new markets these methods primarily focus on lowering maintenance expenses, cost escalation, and delays. Alongside, Improving citizen well-being. With a focus on monetizing information using advanced analytics organizations are given an edge to predict and better decision-making out of business intelligence tools and reports. Moreover, Information management techniques make use of software and other technologies that are meant to assist businesses in making the most of their data in order to boost output, promote transparency, and provide business insights. The industry-standard methodologies, like the SCOR model, capability models, standards and checklists offer tremendous new precepts for how to manage information and outstanding metrics for the information supply chain. Along with other methods of managing information as an asset, information management standards and approaches can be leveraged. There are impressive disciplines around managing IT/infrastructure/technology and some ideas could be learnt and applied in the information management arena asset management technique can be used to improve information maturity as well, Gartner has provided seven dimensions which can be used as guiding tools or blocks. The dimension is to be followed in order starting with a vision, followed by Strategy, next Metrics and Governance, then People and Process and lastly Infrastructure. Even the companies whose business model relies on the information have not mentioned it as an asset in their books. So, there is a difference between market value and replacement value of tangible assets which is represented by “Tobin q”. Investors have realized this difference. According to the accounting definition, information can be owned relying on conditions such as control, cashing and probable future value. To ensure functional utility the quality of the information should be measured. Fundamental and Financial Valuation approaches can be used to compute the valuation of information assets. Under fundamental valuation models, there are three measures (value of information) intrinsic, business, and performance financial valuation models have three measures as well cost (CVI), Market (MVI) and economic (EVI) values of information. The idea of supply and demand can also be adapted in the information arena a. The rate of return for information assets is higher for low-maturity organizations and lower for high-maturity organizations since they have already reached the optimization ceiling.

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# Introduction

Infonomics is all about asserting economic significance to information. The book “Infonomic” by DOUGLAS B. LANEY is divided into three parts: monetizing, managing, and measuring information as assets. It describes how the information is intangible and different from the other traditional assets but at the same time can be used like other assets to generate revenue. Laney has taken as a metaphor for the supply chain to visualize how the information goes to the lifecycle including production, shipment, delivery and usage like an item manufactured in a factory. It provides the strong foundations to consider it as an asset in the modern economy and illustrates some remarkable examples of companies using it to their benefit.

# Glossary

CMMI: Capability Maturity Model Integration

DAMA: Data Management Association International

EDM: Enterprise Data Management

KPMG: KPMG is a global network of professional firms providing Audit, Tax and Advisory services.

IBM: International Business Machines Corporation is an American multinational technology corporation headquartered in Armonk, New York, with operations in over 171 countries.

EIM: Enterprise Information Management

CDO: Chief Data officer

SEC: Security and Exchange Commission

DQ: Data Quality

CVI: Cost value of Information

MVI: Market value of information

EVI: Economic Value of information

IOT: Internet of things

IPO: Initial Public Offering

# Body of the report

## Monetizing Information as an Asset

### Why Monetize Information

### Prime ways to Monetize Information

### Methods for Monetizing Information

### Analytics : The Engine of Information Monetization

## Managing Information as an Asset

### Information Management Maturity and Principles

### Information Supply Chains and Ecosystems

### Leveraging Information Asset Management Standards and Approaches

Several association, groups, and professional service industry have established their own information-related management tools and methodologies. Each of these bodies (CMMI, DAMA, EDM, KPMG, IBM) of knowledge, approaches, resources, and tools has its unique uses and benefits for information management leaders and professionals. Yet, most of them tend to lack adoption, completeness, integration, and/or usability. There are impressive discipline around managing IT/infrastructure/technology and some ideas could be learnt and applied in information management arena.

Content management and data management are similar and overlapping concepts so methodologies and principle of content management might help for information management. Several processes under the Knowledge Management can be adopted for information management which will in turn help in transferring and incorporating information assets into business products and services. Standards and methods from asset management other than IT and can be also used as reference for information management. They are physical asset, financial asset, human capital and other intangible asset.

### Applied Asset Management for Improved Information maturity

Information maturity provides mechanism to tackle challenges and follow best practices for managing internal and external information as an asset and to structure organizations and roles to build an info savvy organization. It addresses barriers to managing information, provide new ways to approach information asset management and suggest a set of “Generally Accepted Information Principles” for doing so by taking an in-depth look into each of Gartner’s EIM (Enterprise Information Management) dimensions or building blocks.

For each dimension, observations and insights from supply chain, ecosystems and the other asset management disciplines can be added to a supplemental set of ideas and practices to further elevate the concept of enterprise information management to one of information asset management.

Gartner’s EIM maturity model enables organizations identify what stage of maturity they have reached and what actions to take to get to the next level. The EIM maturity model comprises of seven dimensions which have been identified as essential to enterprise information management. The Gartner’s seven EIM dimensions are guiding tools or blocks that should be taken into consideration and adapted by any organization that is serious about managing information as an actual asset. The EIM dimensions are to be followed in order starting with Vision, followed by Strategy, next Metrics and Governance, then People and Process and lastly Infrastructure so as not to have a situation whereby the “cart is put before the horse”. As using them in the order provided will enable an organization to realize its goals of identifying its maturity level and the next steps to take.

To become info savvy means that organizations need to manage and deploy information with the same kind of discipline as with their traditional assets. This doesn’t happen without strong focused leadership or a variety of more tactical roles. Primary among these are the chief data officer (CDO). The chief data officer role is foresight, not fad. From history, we see that advances in business and management science have always required new kinds of specialist leaders. Today, a new kind of leader is starting to arise, to take charge of the management and exploitation of the information assets of the firm and their existence is an important signal that should be heeded. They are the pioneers of a key future discipline in infonomics. CDOs involved with progressive business strategy and adding business value tended to be reported outside of IT and to a higher level. Their span of thinking about the kinds of information to be commanded tends to be wider and their notion of information as a valuable corporate asset tends to be more complete.

## Measuring Information as an Asset

### Is Information an Asset?

Five gentlemen filed a motion to obliterate(remove) the antiquated accounting systems which were not able to take account of intangible assets. The title of the hearing was “Hearing on Adapting a 1930’s Financial Reporting Model to the 21st Century.” Steve M. Samek, of Arthur Andersen, pointed out that our current accounting metrics and reporting system are not able to measure the actual value (emerging source of value) in the New Economy

Transparency causes the ability to make informed decisions. Without a proper track and record of economic indices, only “guesstimates” is possible. Even after 2 decades of the hearing, nothing much has been done to take account of information and other intangible assets formally. The current accounting model fails to provide much information for intangible assets which obscures the true value or worth of a company.

The company’s information asset is under goodwill or elsewhere in the balance sheet even for organizations (TransUnion, Onvia, HG Data, IMS Health, A.C. Nielsen, and IRI) whose business depends upon buying and selling the information. Companies are required to quantify, record and assess other assets but not information assets. An information asset is helping to increase the revenue directly or indirectly and ignoring it as an asset creates a disparity in market value and book value. This disparity is given by Tobin's quotients

Tobin q =market value/replacement value of tangible assets

The value has more than double from 0.4 in 1945 and now regularly eclipses 1.0 in any given year and it tripled when data warehousing and business intelligence rose to mainstream popularity. Investors see something special in info-savy companies. Info-savy companies hiring CDO and data scientist and launching data governance program have a q-value nearly 2 times greater than market value. When Facebook announced its initial public offering (IPO) in 2012, its S-1 filing with the U.S. Securities and Exchange Commission (SEC) indicated reportable assets of $6.6 billion and predicted a conservative post-IPO market cap of $75 billion. That implies that it had close to 68 billion of information asset. Information from each user was worth about $81 now it is $200.

Although we have become efficient and reliant on technology and accumulating information, but it is hidden from the balance sheets. Info-centric companies’ business models revolve around collecting, buying and selling information and have a balance sheet devoid of their most valuable assets. Organizations that treat idle information as anything less than having potential benefits do themselves a disservice. Like any asset, its realized value depends upon the organization’s capacity to deploy the information.

### Who Owns the Information?

The ability to use, replicate and share data means it cannot be considered in the same way as a physical asset with an owner. Rather, it is important to think of rights, roles, responsibilities, and limitations for those who access data in the various process from collection, use, sharing and storage. The accounting definition provides more guidance around the potentiality of information as something which could be considered owned which consist of three conditions or characteristics

* Something owned and controlled by an entity (Control of information)
* Something exchangeable for cash (Cashing In on information)
* Something that generates probable future economic benefits which flow to that entity (Probable Economic value)

While most information assets cannot be protected as intellectual property, the way you use information can be legally protected. The business method patent offers a vehicle for defining and securing the ownership rights to almost any unique and useful process you develop. This includes algorithms. Algorithms are used to create information and make use of information.

The term data trustee was introduced as it establishes information as a shared resource with shared responsibility. Moreover, it acknowledges that the same information can exist in multiple places at the same time (or is non-rivalrous in economic speak). The term “Ownership” encourages politics and information silos whereas the term data trustee depicts that data is a shared asset and the property of the company, not individual business units or people. It makes perfect sense that information’s quality should be measured to ensure its functional utility, and that its financial value should be measured to ensure its economic benefits

### Quantifying and Accounting for information Asset

The claim for loss of corporate information assets was denied by insurance because electronic data is not tangible property in the event of 9/11 which points to the need of quantification of information as an asset.

Poor Data Quality has a detrimental effect on innovation, business performance, and competitiveness. Particularly in the realm of Big Data where orders of magnitude increase in volume, variety, and velocity of information, the issues, and their economic impact are greatly amplified. Gartner data quality expert Ted Friedman has identified many Data Quality (DQ) indicators, which include both objective and subjective dimensions,

Validity, Completeness, Integrity, consistency, uniqueness, precision, timelines, and accessibility are objective data quality metrics whereas existence, scarcity, relevance, usability, interpretability, believability, and objectivity are subjective data quality metrics.

To assist organizations in putting Infonomics principles into practice we can use various methods to compute the value of an information asset. These include both Fundamental and Financial valuation approaches. The fundamental models consider the quality-related aspect of information while the financial models measure value in monetary terms by adapting accepted methods for valuing traditional assets. Under fundamental valuation models, there are three measures (value of information) intrinsic, business, and performance. The intrinsic value of information is its presumptive benefit and can be used to prioritize information-related investments, and guide data quality or security-related efforts. The business value of information considers the utility of information, helps to realize the potential real-world benefit, and aligns information-related priorities for competing businesses. Performance value considers the estimated or realized impact of information assets it yields empirical measurements that are good predictors or proxies for financial measures. Financial valuation models have three measures as well cost (CVI), Market(MVI) and economic(EVI) values of information. The cost value of information considers the financial expenses required to generate, collect, or capture it. It can be the best means of estimating information replacement cost and negative impact if stolen lost or damaged. The market value of information looks at the potential or actual financial value of an information asset in the open marketplace. The economic value of Information (EVI) generates the net financial value of information assets by applying the traditional income approach for asset valuation and then subtracting the information’s associated lifecycle expenses.

The realized, probable and potential value of information and their differences gives an idea about performance and vision gap. The Performance Gap is the difference between the realized value of an information asset and its probable value. Information Vision Gap is the difference between probable and potential information valuations. By combining information valuation models, we can identify and close information value gaps.

### Adapting Economic Principles for Information

Information is an unstable resource. It is representational of some other thing or activity, does not deplete when used, may be employed concurrently, costs relatively little to store or transmit, and can quickly change or vanish.

Executives, business leaders, and architects must understand how the pricing equilibrium differs for information compared traditional services and products. It is based on a more comprehensive function of information costs, workable uses, and market saturation rather than balancing supply and demand Information buyers shouldn't assume being able to purchase it for only a small price increase. And information providers must consider how diminishing market saturation will affect the number of purchasers at any price point (and vice versa), as well as how this would affect their identifiable income stream.

However, the way an information unit's price fluctuates in reaction to other factors (i.e., its elasticity)—primarily the supply and demand of information—may be just as significant as—or perhaps more important than—fixing a price for it. The amount a supplier (publisher, producer) of information asset supplies in response to a change in price is measured by the price elasticity of information supply. However, given that data is intrinsically reproducible, why would a supplier, such as a book publisher or data broker, limit the supply even with downward pressure on prices? Simple: to stop the price from falling below zero, producing little or loss-making earnings.

There are three fundamental ways to design systems that can prevent the adverse effects brought on by streams of similar data:

* Transmit only distinct data if it is produced and filtered by the publisher. IoT devices, for example, might only send updates when their state changes.
* Transmit only differential data, which includes the delta between subsequent data points. Examples include the aptly named differential backups, and accelerometer sensors and water leak detectors.
* Produce and transmit only derivative data. Examples include publishing a revision to a previously published book or article or applying different algorithms to a piece of information to craft uniquely differentiated messages for customers.

When it comes to information yield low-maturity organizations will see accelerating improvements in the rate of return on their information assets from information-related investments, while high-maturity organizations will see decelerating rates of return as they approach an optimization ceiling

# Summary

# Conclusion

In the modern economy, information has value and companies are realizing its significance which has increased revenue, making the business and service processes smooth and efficient. Although the significance is realized in the business world, it is still not properly treated and reflected as an asset in accounting and legislation. More effort in monetizing, managing and quantifying information as an asset is needed which will yield proper utilization of these newly discovered shiny assets.

# References

Laney, D. B. (2018). *Infonomics How to monetize, Manage, and Measure Information as an Asset For Competitive Advantages.* 711 Third Avenue New York, NY 10017, USA: Bibliomotion, Inc.