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Published by Non-Profit Organization Global Academic Community
Kita 1-8-13, Okegawa Saitama, Japan 363-0011

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“The Journal of strategic accounting”

1. Historical Background

The Strategic Accounting Research Center was formed in 2015 with the members of Business Strategic Accounting Research Committee of The Japan Industrial Management & Accounting Institute . In 2016, the Center became a non-profit organization as The Global Academic Community (GAC). GAC holds Strategic Accounting Center meeting for researching and studying. Since the initial research started in Business Strategic Accounting Research Committee, the group has 17 years of accounting research experience.

2. Journal Purpose

Japanese accounting has been facing the winds of globalization. As International Financial Reporting Standards (IFRS), becomes popular for global companies, the confusion between IFRS and the existed accounting standard in Japan are seen. In business, many accountants find difficulties where the Japanese accounting practices process differently from IFRS. The strategic Accounting Center focuses on researching and developing a solution margin different accounting standards. Our research members take an analytical look at how IFRS affects Japanese accounting standards and the solution for difference between them. The members are formed by business accountants, accounting professionals, and business persons.

3. Spirit of Journal Issue

As 2017, there are a lot of accounting journals published in Japan. However, only few journals with referee evaluation are published in English. Accounting study relay heavily on Geographic location. Japanese accounting has been developed by only Japanese researchers since all studies were reported in Japanese. As IFRS getting well recognized in Japan, the group decides to publish a journal that reports Japanese domestic accounting study to global researchers and professionals in English. We believe the journal assists developing the study of IFRS and Japanese accounting standards.

4. Referee Method

To keep the quality of papers published on journal, we believe the Editorial Board is necessary. We evaluate report papers from an analytical point of view and make sure to maintain the quality of papers on the journal before publishing. Underdeveloped research papers may not be accepted for publishing, however, our board members assist to develop the papers enough to get accepted next time.

Masamichi YOSHIOKA
The Global Academic Community, President

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Human beings viewed as an open complex system and also as an information processing system:

The Human Mind from the point of view of Cognitive Science.

Yasuo NISHIKAWA (Professor Emeritus of Sophia University)

Abstract

The paper seeks to understand the mind of the human being as an information processing system. This involved categorizing the human mind as a symbolic computation system whose essential elements are the hardware (the body and brain) and the software (conceptual understanding). The software is the operational program, or the operating procedures manual of the mind, but is also the algorithm, or symbolic array, written by symbolic logic (propositional logic and predicate logic) rules running in the central information processing unit (the brain).

The hardware corresponds to the human body whose basic four components are receptors (input devices-the senses), effectors (output devices – speech and writing, and so on), the central information processing unit of the brain (the neural network as a computation device), and its storage unit, the memory. Once categorized in this way, it is possible to say that the mind is a computer, especially in relation to its software. Today, this idea is also used in artificial intelligence (AI) research projects, which seek to assemble a thinking intelligent machine similar to human being. This paper discusses topics within this approach, such as the concept of the complex system, the capacity of the transmitted information, the important mind and body functional relationships, pattern recognition, the importance of viewpoints and mental maps, and so on. This discussion shows how the human mind works as an information processing system.

Key words;

Human information processing, bottom up (data driven) processes, top down (concept driven) processes, input-output functional relations, the computer analogy, the mind as computer, complexity.

Submitted: October 21, 2016

Accepted: April 21, 2017

Introduction

It is undeniable today that computerization, including computer simulation methodologies, is a key resource and set of procedures in most fields of human endeavor. It is, in turn, a mediator able to bridge different academic fields, and a data-processing resource that can be used to clarify all events, not only the daily activities of all living creatures in the natural environmental world, but also in the cosmic world. The computer is essentially an “open” system whose components are basically input-output devices bundled together with processing and storage units. The reason why these systems are called “open” systems, not closed independent systems, is that they are potentially open to all outside influences and environments. In other words, input mainly comes from outside of the computational system, even if stored and processed within the system itself, and the output is also mainly sent to the outside world. This means that we need to understand every form of interaction the computing system has with other systems, if we are to fully understand and effectively use it as a complex open system. The problem is that there are many kinds of overt and covert complexities in the communication between these systems.

Solving and clarifying this complexity

Fortunately, In the 21th Century, we have very useful tools that enable us to understand and use this complexity. These tools are the computer itself, and computer simulation techniques. This of course largely depends on the fact that the computer is a typical open system whose input and output components are connected to the outside world. This system receives variable physical stimuli as an input from the outside world, and from other systems. After that it extracts meaning from this input information using computations requested of, and performed by, the central processing unit. These computations may be made to correspond to the thinking processes in the human mind, and as a result allow us to better understand how humans use information and develop task selection processes. Thus, systems developed for computation now include the role of prior expectations, the development of planning and decision making processes, and those other procedures that are observed to form part of an individual’s handling of the problems confronted by the human mind (for example, observable physical behavior such as a verbal response). The fact that those outputs are also stored inside an individual’s memory, especially their long-term memory, for future use in similar situations, is also analogous to the way computers store data. Those contents stored in the human long-term memory system are also ordinarily used to construct higher concepts and develop the complex multi-dimensional networks of meaning that we term the knowledge intelligent system.

At this point, we can provide a simple summary of computer-based processes as they apply to our understanding of the human ability to extract and process data from the environment. The information inputted to the human data processing system from all the environments impacting on human being, including other humans, is processed by way of channels from the input device (sight, hearing, and so on) to the output device (speech, writing, and so on) through the mind’s inner central computational unit and memory systems. These systems are generally “open” but complex, in that they interact with each other through relationships at different levels between the internal systems and the outer world. It is therefore necessary to investigate this system using a new approach, for example, the insights provided by complexity science. In this science, the main methods used to understand situations and environments are computer simulation techniques. However, there remains the big problem as to whether it is possible to write appropriate software for simulations that involve specific

front of us without using concepts or knowledge stored in the mind before pattern recognition occurs, even if the experience has been repeated again and again in real situations. Another way of putting this is the saying, “the wise know the whole from a single bit of information”. This is the reasoning process that is the source of the human thinking ability and general intelligence that, in turn, allows us to adapt survive appropriately in the natural environment, as well as in the artefactual, cultural, and socio-economic worlds.

Discussion

The following sections cover the most important aspects of this schema, and look more closely at the information processing in human beings.

Input (stimulus) –Output (Response) relations:

What kind of relationship is there between the input stimulus and the output response and behavior in the system? This relation is ordinarily called the Input-Output (IO, or S-R) relation or mind-body relation in the case of the human system. It is also known as psycho-physical relationship or more usually, the psychosomatic relationship. This relationship was derived by Fechner who described it as a logarithmic function of the following type based on Weber’s law.

$$R = f(S) = K \log \frac{S}{S_0}$$

Where:

R is the output response (the dependent variable, covering behavior, sensation, and so on); S is the input stimulus (independent variable); S_0 is the stimulus threshold (limen- sensation occurs at this point); and K is the relational constant number (>0) between R and S. In addition, the base of this logarithm is changed from e-base (natural (Napierian) logarithm) to 10-base (common logarithm).

This function is known as Fechner’s law in the academic field of psychology (for a detailed discussion, see, for example, Nishikawa, 1973, 2013).

Human beings viewed as information processing system:

One of the most useful methods for understanding the human system is to use the computer system analogy. This is because the computer works not only as a high speed computation tool, but also as an information processing unit which can bring together many similar kinds of data and, if it is programmed correctly, can now mimic human mental functions from basic sensations and perceptions, to the production of higher mental states. Computers can now, for example, engage in productive thinking that can include prediction of the future, selection among many alternatives, decision making, problem solving, and developing an inner mental model of the outer world, just like human beings.

It has now become possible therefore to use advanced computer systems to simulate human mental processes. However, to do this we need to have appropriate software-the operating instructions that are created as a program written using symbolic logic rules-because the computer is definitely tabula rasa (Aristotle). Therefore, whether we can write an appropriate program or not is an important problem when using computer

analogies to explore human mental states. It is difficult to prepare a complete program before totally unraveling the mental cognitive process involved in decision-making for example, so it is necessary to take a trial and error approach to clarify these mental processes against any computer output. However, while this is true, the way computer is objectively testable at all times as to whether or not it matches the range of human outputs observed. In the case of any inconsistencies, the program can be rewritten and tested again and again until, or almost until, it produces a similar output. The similarity judgment involved is known as the Turing Test, and was proposed by Alan Turing, the founder of the logical idea of the computer (Copeland, 2012). The initial reason why Turing first assembled a computer is well known today. During World War Two, he was trying to break the military code used by the German army, which was known as ENIGMA.

The computer simulation approach is still used today. In the present circumstances, it is the most interesting and important method of all those currently used in research on artificial intelligence (AI) and machine learning, and also in human brain (the neural network system) science, complexity science, and so on. These contexts will be continuing sources of topics concerning computer simulations in the future within many academic fields and social situations. However, they are beyond the scope of this paper.

The capacity of transmitted information and direct memory spans in Human Beings:

More simply, the results of experiments designed G. A. Miller (1956, 1967) tell us that the capacity of the transmitted information in the human memory system, that is the direct memory span, is 7 ± 2 , which he called a magical number. In his experiments he used the randomized meaningless numerical array 3 to 14 digits as input memory stimulus. This magical number is equivalent to an amount of information of about 2.8 bits, an abridged binary digit, in the terminology of information theory. However, our daily amount of memory and contents is very large and rich, and also most contents are stored throughout a life time, despite such experimental results. This fact suggests that our meaningful memory content is the result of being able to centrally process large amounts of random input information. We call this internalization the mental, or cognitive process. To explain this, Miller developed the idea of the “chunking rule”, which produces high order concepts and richly multidimensional networks of meaning, and is used to reduce or prevent randomness or chaos in the mind that is the core of human knowledge and intelligence systems.

It is clear from this discussion that the main and important role of the mind is the processing of input information using computations based on logical rules. So it is possible to say today that the mind is a type of computer (Nishikawa, 1994, 1997, 2006, and 2016). However, the idea to construct a thinking machine or computer independent of the human mind is now known as having originated in an artificial intelligence research (AI) project started in 1956 at Dartmouth university by J. McCarthy, who was at that time one of the Associate Professors of the department of Mathematics at that University (McCorduck, 1997). AI research projects are entering a new third phase after many twists and turns that followed the optimistic view (Amari, 2016).

Pattern recognition:

One of the important lines of research in the AI field has been that of successful pattern recognition. It is often necessary that the intentional mental process, utilizing both bottom up and top down parallel simultaneous processing, comes up with something meaningful from random pieces of information. In other words,

processing includes hypothetical reasoning and its verification. In other words, processing includes hypothetical reasoning and its verification, to determine whether or not the assumptions match the confronted real world. This process continues again and again, supported by our models of the outer world, until we recognize a pattern in the data, and is required of artificial intelligence models as well. An example can be found in Figure 2 (Frisby, 1979): What do you notice in the random dot pattern in the figure? Is it possible to see a (Dalmatian?) dog at the center of the dot pattern, as well as a roadside tree, and its fallen leaves on the road?



Figure 2:

A Random Dot Pattern (after Frisby · 村山, 1982, P. 17)

Then, what about the difference between figures 3a and 3b?

It goes without saying that these are clearly two types of world map. Then, the author would like to ask you the reader to consider which one is the image of the physical world in your mind? And also to ask for the reason why you have selected that one? These questions are posed to illustrate a very important issue, which is that whether you consciously think about something or not, your point of view is generally presupposed. It is very clear that pattern recognition basically depends on the unconscious feeling called commonsense among us. This fact can tell thus us why people of countries to the west of Japan call the Japanese geographical position the Far East (but not why they sometimes act as if the Japanese lie at the end of the world!).



Figure 3a: A physical Map of the World (Kuemmerly + Frey)



Figure 3b: An alternative Physical Map of the World



Figure 3c: A reverse upside-down map of Figure 3b

By the way, Figure 3b looks like a normal map for the Japanese. However, it is actually a reverse upside-down map (Figure 3c), purchased at the souvenir shop in Sydney Airport, Australia. This map shows again that our normal cognition largely depends on our own point of view, and tells us strongly that it is very difficult for us to take another point of view unless an appropriate mental rotation is made intentionally, or by force. Unfortunately, this is a very difficult operation to do consciously. Nevertheless, at least we have to say that our recognition is largely dependent on unconscious information processing, and our own (or our inherited) point of view. To be truly reflective though, we then must identify and clear these hidden processes and viewpoints in order to understand what the mind is doing, and this in turn means that we can find one of the answers to the question about what the mind is in these comparisons (Nishikawa, 1994, 1997, 2015).

Conclusion: What is the mind?

Finally, the paper comments on the most difficult issue of all in Psychology as well as in Cognitive Science. The reason why this theme is difficult is that to understand it we need an outside independent higher order meta cognition. Ordinarily, psychologists are very busy with daily concrete activities, and the instance of their peers and institutions that they should produce more works based on standard paradigm. Among researchers this is known as “publish or perish”. As a result, they find it very hard to recognize that the paradigm itself has been internalized, and is not necessarily the best thing to do. To understand situation requires an out-oriented approach, where the subject, not the researcher, clarifies the hidden paradigm. Understanding the mind itself is in the same league. Thus, the nature of the mind is out of sight to almost psychologist and other people, except for the occasional philosopher and small number of psychologists interested in the mind itself, and in the theory of knowledge.

This paper thus suggests that the functioning of human mind can be said to correspond to the algorithm

(software) running on the central information processing unit of a computer, while the human body corresponds to the computer hardware. The semiotics and computational theory behind this recognition thus allow us to explore the human mind as a complex data processing system, and also construct present-day AI research programs. Whether this idea is able to tell us more about the functioning of the human mind or not is however largely dependent on whether we are able to write appropriate software that is able to simulate the inner processing processes of our minds. Nevertheless, we are able to show that the mind processes information in a similar way to software running on a computer system. While this is a mechanical approach to understanding of the functioning of human mind, as a matter of course, it does meet the artificial intelligence research program criteria mentioned in the first part of this paper. So, based on the discussion in this paper, readers may explore the approach of AI research, neuroscience, and mathematical network science, and also complexity science with confidence in their applicability to the understanding of how the human mind works (Amari, 2016, Gardner, 1985, Nishikawa, 1994, 1997, 2015, Waldrop, 1992).

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Judgment of Business Person on Accounting Information: Delusion about Lease Information

Masamichi YOSHIOKA (Tokyo University of Science)

Abstract

Accounting information preparers use transaction documents as physical outside of humans for building up an accounting information from them. The preparers re-create the transaction documents in their brain, and rebuild other relevant accounting information. Then, a delusion created by the preparers occurs. The preparers should show good accounting judgment in using the principle of sincerity against avoiding that delusion in advance. First, the preparers build up an accounting information according to current accounting rules as physical outside of humans. If the preparers decided not to map a reality of the transaction on the accounting information, they could search one of the non-current accounting rules. The preparers go through that procedure, and can reduce the delusion.

On the other hand, the accounting information users build up transaction documents with a disclosure of the accounting information as physical outside of humans. Then, the users would re-create the transaction documents in their brain that are useful to them. There occurs a delusion created by the users. The users have a business judgment according to an audit opinion against avoiding that delusion. First, they watch the financial reporting and understand the transaction documents. If the users could not understand the reality of transaction documents with only the financial reporting, they had to read the accounting notes. The users go through this procedure, and they can reduce by their delusion.

This paper will take lease transactions as an example of the accounting behaviors. A lease lessee concludes a finance lease contract with a lease lessor as a lease company. First, a lease information preparer lease transaction documents. The lease lessee can understand them. Then, he considers how to re-create the lease transaction documents, and rebuilds the lease information. Then, he would understand the lease information from memory. He would see the off-balance accounting treatment about the lease transactions. However, the off-balance accounting treatment was scrapped in 2007. A delusion then occurred, created by him.

On the other hand, lease information users re-create the off-balance lease information, and rebuild the lease transaction documents using the accounting notes. A delusion created by them occurs.

Keywords: accounting information, preparers, users, delusion, accounting judgment, business judgment,

Submitted : April 19, 2017

Accepted : May 26, 2017

Introduction

People in Japan understand accounting as a tool to convert data from transaction contents to accounting information. People consider the performance of accounting standards, however do not take up the human attributes of accounting information preparers. People know that accounting standards are a tool for creating accounting information. However, if accounting information preparers lack accounting ability and good faith, they could not make qualitative characteristics of accounting information.

First, accounting information preparers perceive transaction contents as physical outside of humans. If they perceive them, they could not understand whether the contents were complete or incomplete. When they could not have judgement about complete or incomplete transaction contents, they recreate them in the brain. When accounting information users recreate the transaction contents in the brain, people could not say whether or not they had their ability to understand the essence of the transaction contents. On the hand, accounting information users should make accounting decisions affected by their unique personality. It is possible, there is delusion of accounting information users.

Accounting information preparers in France make judgments on the base of "principle of faith." This principle is a provision relating to personal attributes of accounting information preparers. If accounting information preparers made an accounting information with fairness, they never were accused in the case that they could not pick up a reality of transaction contents from accounting information.

Nishikawa [1982] said "that people can not watch mind in "Behavior Analysis: Behavior and Culture." People understand mind with human actions (Nishikawa [1982] p.20). People call accounting behavior "new accounting" when this paper will rely on psychological approaches in the accounting area.

There are many action subjects in accounting behavior, however they are too abstract. This paper will clarify the human attributes of accounting information preparers and users, and will pick up specific transactions such as leases.

The lessee's lease promotes lease agreements with lessor's lease. First, lease information preparer as lessee's lease perceive lease agreement contents. He recreates lease contents in the brain, and make lease information. Then, he picks up lease information as remains in the mind. He voluntary chooses off-balance treatments for lease transactions. However, off-balance treatments were stopped in 2007. There is a delusion of lease information preparer.

On the other hand, lease information users recreate lease information as on-balance treatments and release lease transactions with lease information. There is a delusion of lease information users.

This paper will have two purposes. First, this paper will clarify accounting judgment process of accounting information preparers who make their proper accounting information on the condition that they can collect limited transaction contents with limited accounting abilities. Second, this paper will clarify business judgment processes of accounting information users who make their proper lease contents on the condition that they can collect limited lease information with limited business abilities.

1. Research Structure

1-1. Previous Studies: Rise of Accounting Behavior

1-1-1 AAA in trend

American Accounting Association (AAA), published "Report of the Committee on Behavioral Science Content of the Accounting Curriculum" in 1971 (AAA [1971] p.4). In this Report, Behavioral Accounting is defined as follows. Behavioral accounting in areas of research to investigate the behavior of accounting information preparers and users use at the scientific approach. There is the regularity on this basis of human actions in accounting behavior, and people will identify it. It is possible to observe the regularity of human actions in accounting behaviors, and affecting people's behavior should indicate the resulting action.

1-1-2 AAA Essence of Behavioral Accounting Report

AAA Report picks up the 3 points (AAA [1971] pp. 252-253).

(1) "At the first point, thoughts and actions of personality are in reflecting their desires and goals. However, their relationship is complex and fragile."

If people pick up a relationship between actions and desires, similar actions are in reflecting different desires, and different actions is in reflecting similar desires.

(2) "At the second point, desires and goals are formed from individual personality."

Individual personality has a decisive role in the motivation. However, the personality is emerging through social interaction.

(3) "At the third point, people can awaken particular desire, or not, from economic motives, environmental conditions, and human perception."

A lot of individual desires are statistic and potential. However, only certain desire becomes dynamic, and people will take certain actions.

Under the previous AAA studies, desires depend on the individual personality. That personality is formed in social life, and desires are realized under economic motivations, environmental conditions, perception. The result of desires appears as an action.

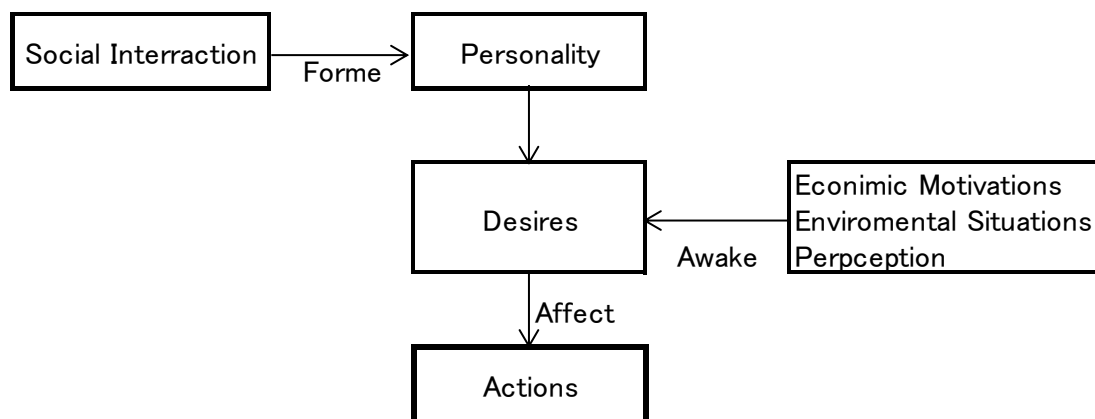


Figure1.Affect from Actions of Desires

2. Human Attributes in French Accounting Principles

Plan Comptable Général 1982 (PCG82) defines faith (note 1) as "accounting information preparers should apply current accounting rules on faith (bonne foi) about a reality and importance of business transactions"(PCG [1982] p.5).

According to this provision, accounting information preparers should acquire sufficient accounting knowledge as accounting expert accountants, when preparers apply current accounting rules. There is a request to carefully apply current accounting rules in the condition that accounting information preparers have their sufficient accounting knowledge. The faith is a strength that accounting information preparers make judgments on their integrity or rationality.

2-1. Accounting Judgments by Objective Faith

2-1-1. Definition of Objective Faith

Objective integrity ties with accounting information itself. If accounting information was insufficient, even a deficiency is separated from faith of accounting information preparers. Rather, it ties with their skill. Because accounting information preparers should provide proper accounting information (information sincérité) to accounting information users. Namely, it gives precise mapping (une image fidèle) for the business reality.

2-1-2. Relation between Objective Faith and Regularity

There is adaptability in structured accounting rules under the regularity (Vienne [1983] p.5). Because a base that gives priority to PCG 82 ensures a homogeneity of the accounting information. And it is possible to comparisons among business results of similar companies on the same periods(Vienne [1983] p.5). In addition, there are different degrees for understanding accounting information, because accounting information users are diverse. The regularity decreases the different degrees. Thus, normality is to ensure homogeneity of the quality of accounting information and its contents, business person aske to use as a business common language (PCG [1982] p. VII.).

2-2. Accounting Judgment by Subjective Faith

2-2-1. Definition of Subjective Faith

Subjective faith is tied with humans (Pérochon [1983] p.44). Here humans are accounting information preparers. If accounting information was insufficient, a business person should verify a fact that accounting information preparers made dishonest information with malice. If accounting information preparers make an accounting information with dishonesty, they will be punished.

2-2-2. Relation between Fidelity and Faith

Accounting information for decisions of users should be useful information. First, accounting information preparers should faithfully map assets, financial conditions, and business results of companies from business transactions. Second, its users should understand and analyze a business reality of companies with accounting information disclosure. From this perspective, fidelity to verification concepts is necessary to fully perceive the reality of corporate activities in the 36th France National Conference for Professional Accountants and Authorized Accountants. On this point, D.Vienne explicates as follows (Vienne [1983] p.18). That is, verification to fully perceive the business reality becomes rational to reproduce corporate activities from accounting information.

In the amended Commercial Code article 9 (6)of May 1983, accounting information preparers could not fully ensure the business fidelity of assets, financial conditions, and business performances from accounting information, if accounting information preparers made an accounting information by applying current accounting rules. In that case, the preparers added supplementary information on accounting notes, they could ensure the fidelity. If the

preparers could not ensure the business fidelity, they separate from the current accounting rules and adopt an appropriate accounting rules.

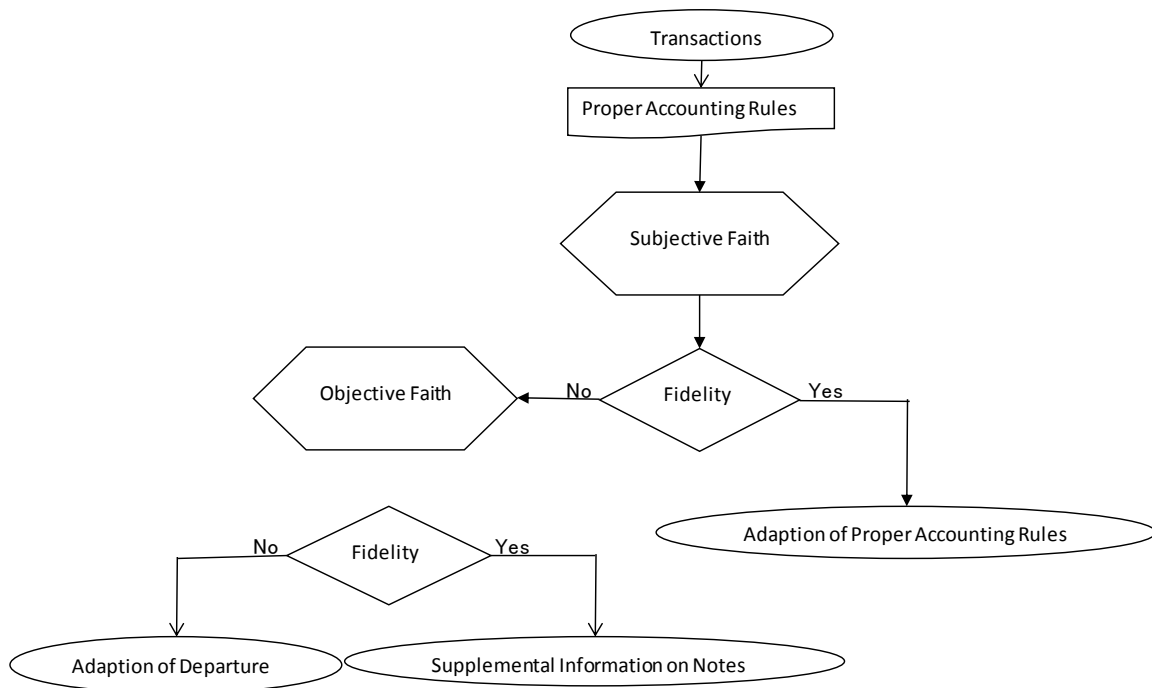


Figure 2. Decision Making Process

3. Diversity of Accounting Behaviors : Lease Information

France fidelity becomes verification concepts for fully perceiving the reality of the business activities. This perception is in the typical process of recognizing an intelligent information processing (Kikuchi [2016] p.16). That is, there is a process that people recognize as physical outside of humans, also containing other information interpretation and judgment about sensory experience including information catching by sensory organs, other information.

In the process that people recognize as physical outside of humans, they perceive other information that sensory organs sent to the central nervous system (Kikuchi [2016] p.15). Most perceptual delusions happen as physical inside of humans in the brain. When people treat sensory information in the central nervous system, it is skewed or complement. On the subject of recognition there is proper information. The information may be disorganized, and reasonable conclusions and judgements are off the point. This paper understands it as delusion.

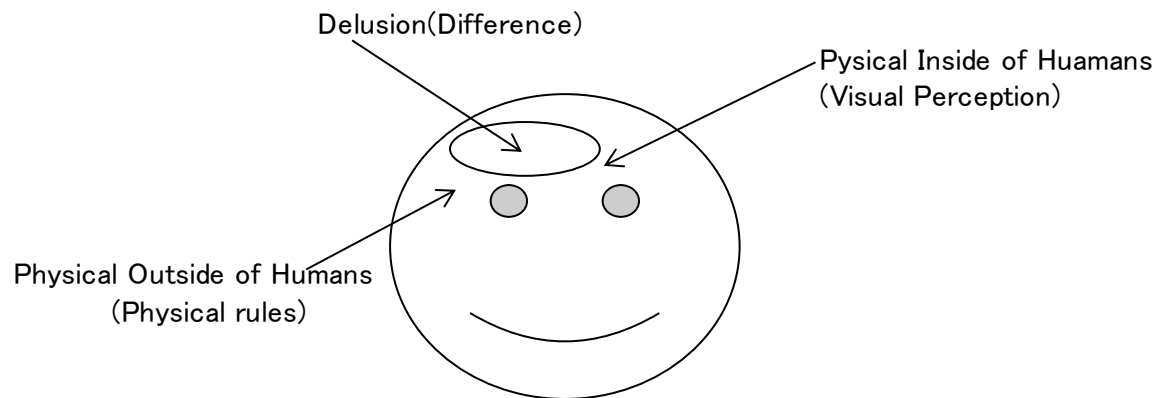


Figure 3. Solution Porcess to Broblem

3-1. Behaviors of Lease Information Preparers

Lease information preparers have their lease accounting behaviors as following (Yoda [2010]p.5).

- (1) Lease information preparers pick up lease transaction contents as physical rules in the right brain.
- (2) Lease information preparers make lease information in applying on-balance treatments, that is, in lease accounting standards.
- (3) Lease information preparers recreate lease information as visual perception in applying on-balance treatments in the left brain. However, they assume typical images for them, because they have their strong images. And they would adopt off-balance treatments (note 2). As result, the financial reports are simply to lease transactions.
- (4) Under off-balance treatments, information about total lease payments, lease unpaid amounts are not described in the financial reports. Then, information about total lease payments, lease unpaid amounts are described in the financial reports for getting a map on lease transactions. As a result, the accounting notes will be ballooning. Here, there is a delusion of lease information preparers.

3-2. Behaviors of Lease Information Users

- (1) Lease information users pick up lease information via off-balance treatments as physical rules in the right brain of the for lease information users.
- (2) Lease information users recreate lease information by off-balance treatments as visual perception system in the left brain. They assume their typical images convenient for them, because they are a captive of their images in strong. And, they desire on-balance treatments.
- (3) Under on-balance treatments, information about total lease payments, lease unpaid amounts are not described in the financial reports. Then, information about total lease payments, lease unpaid amounts are described in the accounting notes. Here, there is a delusion of lease information users.

3-3. Delusion among Lease Information Participants

There are delusions of lease information preparers and other delusions of lease information users. There are also delusions between lease information preparers and users. Lease information preparers prefer off-balance treatments to on-balance treatments for disclosing clearly lease information to their users. However, lease information users

prefer on-balance treatments to off-balance treatments for understanding clearly lease information. There are delusions between lease information preparers and their users about clarity of lease information.

4. Experiments Related to Delusions of Business Persons: Delusion Related to Lease Information

4-1. Experimental Design

Lease agreement becomes transactions among lease's lessee, suppliers dealers and users. Lease transactions consist of 6 steps.

In step 1 "Conclusion of lease contract" : Total lease payments are described and cancel during the lease period is prohibited.

In step 2 "Conclusion of a lease contract": Lease's lessors bought lease assets from the lease sales companies.

In step 3 "Lease payments": Lease's lessors pay for the lease assets to sales companies.

In step 4 "Delivery of leased assets": Lease sales companies transport lease assets to the lessees.

In step 5 "Lease payment amount": Leasing and financing institutions pay the full amount of the lease payments to lease lessors.

In step 6 "Lease payments" : Lessees pay monthly lease payment to leasing and financing institutions.

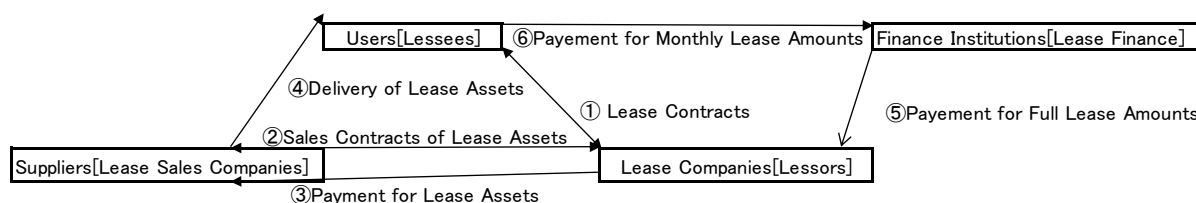


Figure4. Lease Contract

On the lease transactions, step 1 "Conclusion of lease agreement" becomes a lease agreement. Also, step 6 "Lease payments" is described on financial reports. That is disclosed lease information.

Financial Accounting Standards Board amended the corporate accounting standards 13 "Accounting standard for lease transactions" in 2007. The Board abolished off-balance treatments of lease transactions, and established on-balance treatments. Accounting information by applies to accounting processing criteria stipulated in the lease application guidance on balance. Lease information preparers apply on-balance treatments established by the Guidelines for applying accounting standards for lease transactions. They make decisions on objective faith. They make decisions on mapping faithfully business reality when they watch lease information on-balance treatments with lease contract. They make decisions on subjective faith. If they make judgment in not to increase the fidelity, they will add supplemental information on the accounting notes. Then, they will adopt off-balance treatments. They publish information of full lease amounts, unpaid lease amounts as supplementary information, because it does not be described in financial reports.

4-2. Changes into Lease Information Disclosure

Under old lease accounting standards (note 3), off-balance treatments were the exceptions. However, they had been normal in in accounting practices (ASBJ [2004] 2 (2)).

Yoshioka et.al. [2016] (note 4) affected the questionnaire survey about the abolition of the remarkable rules. The Q.8 to Q.11 ask about various kinds of impacts caused by Revising Standard of 2007 (disconnection of the exception procedure for finance lease without ownership transfer). The Q.8, “Managerial indicator” asks about how the new rule impacts on managerial indicators. And the Q.10 “On-balance sheet” asks what extent companies were affected by on-balance lease assets and lease liabilities. Almost all companies (94 companies, 86.2%) choose “It did not affect managerial indicators.” or “It did not affect managerial indicators much.” This far exceeding, the number of responses of “It affected managerial indicators” or “It slightly affected managerial indicators.” Approximately 80% of the companies choose “small” or “slightly small”, regarding to the impacts of on-balancing lease assets. Almost 80% of the companies choose “large” or “slightly large”, regarding to on-balancing lease liability. Therefore, it is difficult to say that there is a great difference between lease assets and lease liabilities regarding to on-balancing impact.

The Q.9 “Increase of office work” asks about additional office work to process on-balance transactions. For this question, almost all companies (98 companies, 91.6%) choose “increased” or “slightly increased.” Based on these responses, since lease assets do not make up for a large part of whole assets in many cases, there was a little impact on the managerial indicator even requirement office work increased.

The Q.11 “Disclosure” asks whether more financial information of companies are open to the public after applying the on-balance standard. The ratio of the companies choosing “yes” or “generally yes” (71 companies, 66.4%) is the majority.

4-3. Clarity of lease Information Prepares

Yoshioka et.al. [2016] have operated the hearing survey of three companies.

4-3-1. Company A: Manufacturing industry

The Company A knows that the recognition of the importance of lease assets is understood by the importance of both equipment or facilities and the amount of money. The Company A does not change its mind about lease transaction after the revision standard on 2007. However, there is a big impact of the Revised Standard on 2007 as a meaning of the effect on business. Lease assets are on-balance before those account cost. This is a burden on corresponding to auditing rather than the problem of business works. The Company A thinks that there is a large problem of enough choice of off-balance rather than one of don not feel little disclosing by on-balance.

As result, the Company A thinks of effect of lease obligation on-balance as to tend to decrease a ratio of using lease after 2007.

4-3-2. Company B: Non- manufacturing industry

The Company B process accounts in accordance with the standards, however does not feel a recognition as lease assets as if feel like another companies. There is a little importance of lease assets as lessee in its business.

The Company B thinks the effect of its business is not big very much, because there is a part of increasing. However, on the flexible corresponding to a technical innovation, there is a large merit for assets which need to often replace lease assets. There is one view that the Revised Standard on 2007 disclose actual conditions. This is another story how mean it is. The Company B thinks the term of disclosing of actual conditions runs fore than real. And more, The Company B thinks the standard walk alone away from real meaning about the movement of accounting for lease of real estate do, too.

4-3-3. Company C: Non-manufacturing industry

The Company C provides a part of equipment costs which is essential for major business for lease transaction, however they are a low amount of few transactions.

The effect for management index from standards revision on 2007 is a small ratio of assets which demands for lease transactions in the total of assets. The effect is not significant few. However, office work that calculate the cost of depreciation and make the Statement of Cash Flow is increasing, compared to when the Company C processes account for expense from the lease fee, based on accounting for the lease. However, the Company C thinks that adding equipment which provide for lease investment assets in non-ownership-transfer finance lease up as assets make its economic substance more clear.

4-4. Clarity of Lease Information Users

This paper defines perception, that is, people understand clarity as physical inside of humans in the brain. This paper had an experiment for “clarity of lease information users” for having a result as importance of lease information depends on accounting career of lease information. If accounting career was shorter, users prefer off-balance treatments. On the other hand, if accounting career was longer, users prefer on balance treatments. This paper had the experiment of “clarity of lease information users” as follows.

Tokyo University of Science Management Department in third and fourth year: 15 students
Strategic Accounting Research Committee: 15 members

Questions:

Can you understand lease transactions more of on-balance treatments or off-balance treatments? Do you make a choice?

(1) Off-Balance Treatments

Lease information preparers keep annual lease amounts and interest payments as basic lease information on the incomes statement. They keep full payments and full interest payments as supplementary information in accounting notes. As result, financial reports are simpler and accounting notes more complete.

Disclosure about off-balance treatments of lease transactions

(Debit)	Incomes Statement	(Credit)
Lease Payments	8,063	
Interests payments	3,937	

Notes of financial lease transactions

1. Non-ownership transfer finance lease transactions.
2. No option to purchase lesaed assets lower than fair valu.e
3. Non-chancellabe period is 5 years.
4. Purchase amount with estimated mony is ¥48,000
5. Monthly lease payment is ¥1,000 at the end of half reporting period. The total of lease payements is ¥60,000.

	<u>Within 1year</u>	<u>Over 1year</u>	<u>Total</u>
Residuary amount of unpaid lease at the end	¥8,766	¥31,171	¥39,937

6. Economic life of leased assets(machine) is 8 years.
7. Method of depreciation is fixed method.

Worth amount of purchase price	¥48,000
Worth amout of accumulated depreciation	¥9,600
Worth residuary amount at the end	<u>¥38,000</u>

8. Additional borrowing rate is 8%.
9. Repoting period date is March 31.

(2) On-balance treatments

Lease information preparers keep annual lease amounts and interest payments as basic lease information on the incomes statement. And they keep leased assets and liabilities as detail information on the balance sheet. They do not keep full payments and full interest payments as supplementary information on the accounting notes. As result, financial reports are more completely, and the accounting notes are simple.

Disclosure about on-balance treatments of lease transactions

(Debit)	Incomes Statement	(Credit)
Interest payments	3,937	

(Debit)	Balance Sheet	(Credit)	
Leased assets	48,000	Leased liabilities	39,937
Accumulated depreciation	△ 9,600		

Notes of financial lease transactions

1. Non-ownership transfer finance lease transactions.
2. No option to purchase leased assets lower than fair value.
3. Non-cancellable period is 5 years.
4. Purchase amount with estimated money is ¥48,000.
5. Monthly lease payment is ¥1,000 at the end of half reporting period. The total of lease payments is ¥60,000.
6. Economic life of leased assets(machine) is 8 years.
7. Method of depreciation is fixed method.
8. Additional borrowing rate is 8%.
9. Reporting period date is March 31.

4-5. Divers Types of Clarity Judgments

As a result of the experiments in the Tokyo University of Science, 12 students chose “1. Off-balance treatments,” and 3 students chose “2. On-balance treatments.” There were the students who did not major in accounting. At least, they have short accounting careers, have learned the Japan traditional accounting. They want to confirm lease of reporting period payment of the lease expense for the fiscal year. However, they do not want to confirm leased liabilities as future expense.

When this paper had the same experiment in Strategic Accounting Research Committee, all members chose “2. On-balance treatments.” There are 9 accounting professional researchers, 2 certified public accountants, 1 auditor, 1 accounting manager, 1 accountant, and 1 graduate student. All participants have enough accounting experiences and get the trends of international accounting. They want to confirm lease payment of reporting period and leased liabilities as future expense. Higher expertise in accounting career, more preference to “2. On balance treatments.” That is, they improve the balance sheet, on-balance treatments of leased assets and liabilities, because they pick up future cash flow of lessee lease.

Furthermore, a concomitant of accounting behaviors is calculated as follows (Kikuchi [2016] p.109).

Table 4. Relation

		Choice	
		1. On-balance	2. Off-balance
Accounting Career	Shorter	12	3
	Longer	0	15

(Unit: Person)

$$\frac{12}{12 + 3} - \frac{0}{0 + 15} = 80\%$$

From 80%, the subjects have less accounting careers less chose “1. Off-balance treatments.” On the other hand, the subjects have accounting career more chose “2. On-balance treatments.”

Conclusion

This paper has examined the accounting behaviors. Accounting information preparers make accounting information from transactions, their users have accounting information, and they make business judgements with it. The ASBJ has rooted the eliminating remarkable rule in “Revised Standard on 2007,” during the course of convergence with the IASB. However, it was not necessary to abolish the remarkable rule on the relation with commercial leases in accordance with the lease deal, tax law in Japan. Accounting standards are a technique in fidelity mapping to leases.

Accounting information preparers make up accounting information from transactions as physical outside of humans. They could recreate accounting information in the brain, and make up it as they would. Then, there is an delusion of preparers. They make accounting judgements on the basis of faith for avoiding the delusion in France. They make up accounting information under current accounting rules as physical outside of humans. If they could not map a reality of transactions under current accounting rules, they try to give supplement information on the accounting notes. In this process, the delusion of preparers can be reduced.

There are delusions of lease information preparers and other delusions of lease information users. There are also delusions between lease information preparers and users. Lease information preparers prefer off-balance treatments to on-balance treatments for disclosing clearly lease information to their users. Because the prepares think that their users would know the future risk of lease transactions, particularly leased liabilities on the Balance Sheet. However, lease information users prefer on-balance treatments to off-balance treatments for understanding clearly lease information. Because the users would understand outline of lease transactions, particularly lease payments on the Incomes Statement. There are delusions between lease information preparers and their users about clarity of lease information.

Table 5. Delusions between Prepares and Users

	Physical Outside of Humans	Physical Inside of Humans
Lease Information Prepares	Physical Lease Contract ⇒ On-Balance Treatments	Visual Lease Information ⇒ Off-Balance Treatments
Lease Information Users	Physical Lease Information ⇒ Off-Balance Treatments	Visual Lease Contract ⇒ On-Balance Treatments

Made accounting information is handled and validated appropriately by the certified public accountants. Accounting auditors verify how accounting information preparers faithfully make up accounting information. If accounting auditors gave their faith audit opinion, they could not find delusion of preparers. Shareholders meeting makes decisions to authorize the faith of accounting information. Furthermore, when the accuracy is authorized, the accounting information will be disclosed to users. Then, a delusion of users could be reduced.

Notes

(Note 1) Subjectivity in the social sciences is judge on the inner structure (perception). In contrast, objectivity is judged on the external structure (physical rules). This paper considers traffic rules as an example. The purpose of traffic rules is to maximize speed while maintaining safety. A traffic signal is a tool to realize this purpose. When the signal at the intersection turns red, drivers should stop. When the signal is red, the pedestrians decide that can safely cross the intersection. The light serves the purpose of the traffic rules.

There is the same reason for accounting information preparers. If preparers make judgments that do not map the business reality, they could apply other accounting rules outside of current accounting rules.

(Note 2) In “Opinion on accounting standards related to lease transactions,” accounting information preparers leased assets on balance sheet in the certain conditions, on-balance treatments of lease transactions in June 1996. These are called “remarkable rules.” These remarkable rules are the argument that “it is necessary to survive” on “Interim report”(ASBJ [2014]).

(Note 3) “ Old accounting standards of lease” refer to “Opinion on accounting standards related to lease transactions,” published in 1993, and “Practical guidance on accounting for lease transactions,” disclosed in 1994.

(Note 4) In 2014, Yoshioka and others spent 11 months conducting research about the 2014 lease accounting standards.

Appendix: Question Items and Summary of Responses

Q5. Ratio of lease asset

How high is the ratio of lease assets to total assets in your company?

1	Low	105
2	Slightly low	2
3	Slightly high	1
4	High	1

Q8. Managerial indicator

Until 2007, almost all companies chose the exception procedure for finance lease transactions without ownership transfer; that is, off-balancing lease asset and lease liability. It is said that choosing the exception procedure makes the managerial indicator look good, because this procedure does not require recognizing lease liability. Please let us know whether the 2007 revised standard affected the managerial indicator of your company.

1	Low	33
2	Slightly low	61
3	Slightly high	11
4	High	4

Q10. On-balance sheet

On-balancing procedures for finance lease without ownership transfer is required by the 2007 revised standard. To what extent was your company affected by on-balancing lease asset and lease liability?

1. Impact of on-balancing lease asset

1	Small	20
2	Slightly small	65
3	Slightly large	21
4	Large	3

2. Impact of on-balancing lease liability

1	Small	23
2	Slightly small	61
3	Slightly large	21
4	Large	4

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