

【Grant-in-Aid for Transformative Research Areas (B)】

Section I



Title of Project : Foundations of digital embodied economics

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【Purpose of the Research Project】

Traditionally, economic decision-making models using monetary incentives have driven institutional design theory in the social sciences in both normative and empirical aspects. However, in order to design a system for the next generation information and communication environment, in which bodily information will be distributed across time and space, it is necessary to go beyond conventional economics, psychology, and brain science to elucidate the principles of human behavior generated by the distribution of bodily information and the interbody connection environment.

In the existing information environment, various types of physical information (for example, vital signs) are converted into data and exchanged in countless ways on information platforms. The distribution of this physical information has dramatically improved the convenience of our lives by creating new interactions between people who might have otherwise never met, and by facilitating access to personalized information more broadly. On the other hand, the current information infrastructure has created clusters of people who have similar values and preferences, while social ties between people who have different values and preferences have diminished, sometimes creating social problems such as conflicts between clusters that individuals who belong to them do not intend.

In the near future, physical information will be exchanged on information platforms at greater scale and resolution than ever before while more and more objects are information-based and distributed. The distribution of such bodily information will enable us to overlap the bodily experiences of others with our own across time and space, and will not only expand our sense of self and transform our individual cognitive behavioral principles, but will also create numerous equilibria at the social level. In particular, we need to consider methodologies for maintaining a sustainable level of welfare at the societal level, rather than only the immediate pleasure of mutually exclusive individuals. In order to examine what is necessary to reach a "supple bond" in which individuals maintain their autonomy and support others without being forced to do so, we need comprehensive knowledge that transcends the humanities, sciences, and specific academic disciplines.

【Content of the Research Project】

In response to this background, we are proposing a new area of academic innovation --digital embodied economics -- which organically integrates behavioral economics, psychology, brain science, and informatics to examine people's socioeconomic decision-making in a next-generation information and communication environment. We will elucidate these new cognitive

behavioral principles based on digital embodied information, and propose a next-generation social utility model. In addition, we will build an embodied information network infrastructure to realize these principles, establish a theory of digital embodied economics in anticipation of the arrival of a new information distribution society, and contribute to the design of a system that will lead to "supple bonds" while maintaining individual autonomy. Based on this overall goal, each group will set the following objectives.

A01:Behavioral Economics Group - Construction of a social utility model in digital embodied economics

B01:Neuroscience Group - Elucidation of the neural basis of the transformation of the relationship between self and others caused by digital embodied information

C01:Somatic Information Network Group - Construction of digital embodied information network infrastructure

【Expected Research Achievements and Scientific Significance】

In order for individuals and society to fully benefit from the distribution and sharing of embodied information without creating social divides, it is essential to examine the issue across multiple domains of science, engineering, humanities, and social sciences.

We will create an academic foundation for discussing a social model for the coming of a new information society, and create a new area of humanities and science fusion for the post-Society 5.0 era. In addition, the model of the individual and society according to the diversity studied in this research can be applied to nation and town planning (political science), organization planning (business administration), event planning (folklore), manufacturing (engineering), and people planning (co-creation society, cultural anthropology, and pedagogy) based on social networks as "supple bonds" while maintaining the autonomy of the individual.

【Key Words】

Digital embodied economics: This is a new academic field that aims to elucidate, from an academic perspective, how human social and economic activities will be transformed when various information produced by our bodies is distributed across time and space through the development of information and communication technologies, and what kind of future the extended body and self will lead.

【Term of Project】 FY2021-2023

【Budget Allocation】 105,000 Thousand Yen

【Homepage Address and Other Contact Information】

<https://embodiedecon.digital>