

Value Creation Through Third-Party Certification: Case Study of Phase-Free Certification for Disaster Prevention

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ABSTRACT

The purpose of this research is to clarify how third-party certification (TPC) creates value. An application of the *phase-free* concept is discussed as an example of how TPC generates value. It suggests that TPC can be developed through the challenging implementation of the institutions—humanly devised rules, norms, beliefs, etc.—which underpin a certification. Also creating value for a wide range of stakeholders is what makes TPC a promising area of scholarship. This research has investigated disaster prevention education for about 35,000 students in Naruto City, Japan. Usually, disaster prevention education is conducted in a lecture style, setting aside a separate time from the regular classes. However, the unique feature of Naruto City's disaster prevention education is that it consciously incorporates disaster prevention-related content into the regular class contents, following the concept of phase-free promoted by the Phase Free Association in Japan. Hence, students are repeatedly reminded of the importance of disaster prevention, which in turn increases their awareness of disaster prevention. However, it is necessary to have the understanding of all stakeholders involved in implementing disaster prevention education in regular education. This research shows that the phase-free third-party certification works effectively in persuading the stakeholders.

Keywords: Disaster prevention education, Value creation, Third-party certification, S-D logic

INTRODUCTION

Disaster prevention is a typical social issue that must be proactively confronted by diverse members of society. It is, however, considered as an uncertain cost by many people, since preparing for disasters is not an entrenched practice. Phase-free is a concept, that initially originated in Japan intending to encourage consumers to purchase the products and services that are useful during disasters by providing phase-free certification of such products and services. For example, a plug-in hybrid or electric vehicle can be used as a battery when parked. Normally, this power-storage function is not viewed as being useful, but during a disaster, it can be very useful. Phase-free refers to the concept of deriving considerable benefits during emergency situations through the products and services used in everyday life.

The target of this study is the “School Education Initiatives in Naruto City, Tokushima Prefecture, (Gold Prize winner at the Phase Free Award 2021)” that was certified by the Phase Free Association (PFA) (<https://phasefree.or.jp/>).

The structure of this article is as follows. A literature review shows the focus on resource integration in certification, summarizes the theoretical developments of the proliferation of certification schemes, and summarizes the theoretical developments from the Service-Dominant (S-D) logic perspective. (Vargo and Lush, 2008, 2016). This is followed by an empirical study of the role of third-party certification in gaining the approval of stakeholders in implementing disaster prevention education. It further investigates the mechanism behind the value-creation process. Finally, a phase-free framework is proposed for studying the created value in a general TPC scheme.

LITERATURE REVIEW

TPC has emerged as a significant value mechanism in the market and society. Third-party certification is private or public documents to certify the safety and quality claims on a particular set of standards and compliance methods (Deaton, 2004, Hatanaka et al., 2005, p. 355). Previous research on TPC has been expanded to straddle multiple areas. TPC is vital to market institutions that assist firms in integrating resources into products or services (Chkanikova and Sroufe, 2021) and is significant in institutions that assist in adopting resources into public products or services. This promotes product standardization, key criteria, and metrics for corporate social responsibility (Wilburn and Wilburn, 2015), forms global technology networks, and plays a coordinating role in promoting international trade (Loconto and Busch, 2010). Moreover, there are growing considerations for TPC, i.e., achieving Sustainable Development Goals (SDGs) (Ikram et al., 2021), the safety and quality for combating COVID-19 (Voo et al., 2021). However, there have been criticisms of TPC, for example, limited gains from the addition of industry, company-led standards to Fairtrade certification (Diets et al., 2020), high costs and complicated bureaucratic procedures associated with TPC that make it inaccessible to many small-scale producers (Boiral, 2011, Moroz and Gamble, 2018). In addition, stringent standards can undermine the needs and ambitions of aspiring enterprises (Chkanikova and Sroufe, 2021). A common strand throughout many previous studies is the dedication of exploring how organizations use institutions, generally focusing on the adaptive processes necessary for addressing the demands of the institution. From this perspective, TPC defines rules and credits created to serve regulatory purposes but tends to break down the entire certification ecosystem, into its parts, and, this process may not capture the values of stakeholders.

While many researchers suggest TPC has both positive and negative deliverables, there are new opportunities to understand how value is created from TPC. For example, previous research shows the emergence and proliferation of *individual interaction* (i.e., one-on-one) conditions or a condition for certification schemes, such as a non-fungible token (NFT) (Bamakan et al., 2021), (Cupi, 2022). For example, Shao et al. (2022) reported that “The blockchain

technology could facilitate (instead of replacing) the development of institutional trust and interpersonal trust, and the trusting relationship could jointly explain users' adoption and usage of blockchain-enabled applications" (Shao et al., 2022, p. 1). NFT seems to create new values by allowing third parties to certify (endorse) value using blockchain technology. Accordingly, numerous studies have investigated TPC in diverse fields but it is unclear that how certifications might cater to different stakeholder needs and challenges associated with 'creating value' in the certification ecosystem.

We explored another institutional aspect of TPC, i.e., which value-seeking behavior in stakeholders may lead to increased certification performance. We used the S-D logic (Vargo and Lusch, 2008, 2016) perspective, which deals with a definitive framework of how certification value is generated. In particular, the primary research question is, where and how do the real-world individual stakeholders engage in the value co-creation of certifications? We investigated, what factors drive stakeholders to integrate their resources through phase-free certification by looking into the activities of the PFA.

EMPIRICAL SETTING AND METHOD

This research has selected the case study method (Yin, 2009), which is used to illustrate, clarify the contextual meaning, and deepen the research phenomenon for a specific context (Gummesson, 2000). Naruto city has important challenges regarding the implementation of measures in preparation for a massive Nankai Trough earthquake and tsunami, from which it is assumed there would be extensive damage. Therefore, Naruto city has adopted the phase-free concept of disaster-prevention education in all its primary and junior high schools. For example, in a 5th-grade math class, students are taught that a tsunami travels 600 meters per minute. They are then asked to calculate the speed of a tsunami in terms of how many meters it travels per second. Therefore, the students become aware that the tsunami is much faster than they can run and start thinking about all the possible ways to cope with such a disaster. Phase-free design is defined by the following five properties, 1) phase-free use, 2) everyday use, 3) intuitive use, 4) inspiring people, and 5) ease of spread (phase-free website, 2022).

Data Collection

Data were collected from four sources: interviews, YouTube videos, a special TV program on phase-free initiatives in Naruto city, and documentary evidence. The survey targets and methods are listed in Table 1.

The focus of the interview with the representative of the PFA was on anecdotes from the process of the development and diffusion of phase-free certification. The following questions were asked to the representative of the PFA: "Who is involved in phase-free certification?", "Why and how do they connect with each other?", and "What were the difficulties in promoting phase-free, and how did they mitigate the difficulty?". The interview also involved the interesting or unexpected stories. The focus of the other methods was on anecdotes about phase-free implementation. Specifically, we coded texts that are characteristic of stakeholders' attitudes before and

Table 1. Survey targets and methods.

	Data	Minutes	Data for surveyed stakeholders	Date
Interview	Semi-structured	90'00"	Representative of Phase-Free Association (Rep of the PFA)	June 2021
YouTube	Naruto city official channel of a round-table discussion	50'00"	Naruto City Mayor, Naruto high school freshman and sophomore, Rep of the PFA	January 2021
	Naruto city official channel - a dialogue	11'33"	Naruto City Mayor and Rep of the PFA	October 2020
TV program	NHK Tokushima - a special program	5'52"	Leading member of the Naruto city board of education, elementary school teachers, fifth-graders	February 2021
Documents	White paper, Organization Papers, Financial statements etc	.	Rep of the PFA	June 2021

after their participation in phase-free certification. An interview and audio data were recorded and subsequently transcribed verbatim. As a mean of recording the outcomes and providing pattern codes of the analysis, interpretive codes were constructed. The codes were set by the researchers. Some interpretive codes were initially used, and three pattern codes were created. The pattern code was selected to summarize all the findings as it provides a framework for undertaking empirical observation of resource integration (see Table 2).

FINDINGS

As a result of the analysis, the role played by phase-free certification can be summarized in the following three points.

- 1) Use of a common protocol: The value of everyday goods and services is unconsciously embedded in the common sense and habits of stakeholders.
- 2) Use of the resource at hand: Rather than searching for the resources to be required in a disaster, using the resources at hand makes it easy for everyone to participate in the exchange of resources.
- 3) Use of the phrase "phase-free": Even though the act of being prepared for a disaster is embedded in people's perceptions, an appropriate term had to be given to make it real.

Table 2. List of typical codes.

Pattern Codes	Interpretive Codes	Examples
Use of a common protocol	commonplace	The importance of disaster prevention measures is undeniable, it goes without saying. (Rep of the PFA)
	everyday	At Math classes, I was impressed to see my students comparing their running speed to the one of tsunami. (Elementary school teacher)
	unconscious	To protect the lives of its citizens, Naruto City would like to implement measures based on the idea of phase-free, originating in our daily life routines. (Mayor)
Use of the resources at hand	accumulated skills	I hope our children are able to use the emergency skills, little by little implemented by their teachers, to protect themselves in case of an earthquake. (a leader of the board of education)
	uncertain cost	While in the past disaster prevention may have been considered as spending with uncertain cost, viewing it as a value could be beneficial for people. (Rep of the PFA)
	decision making	The speed of a tsunami is 10 meters per second, so 50 meters in 5 seconds, which is much faster than we can run. (5th grader)
Use of the unique phrase "Phase-free"	egg of Columbus	Using a simple term, "phase-free car" instead of a long and complicated explanation of an EV car, could be more convincing for customers. (Rep of the PFA)
	two for the value of one	When we learnt about speed at Math classes, I realized how fast tsunami is! So I decided I would run away when tsunami come. It was like getting two items at the price of one: I learnt about the speed and also I realized how fast tsunami is. (5th grader)
	conveniently	When I heard about the "phase-free" concept, I thought it was very useful and quite easy to implement, so I am going to spread the idea through my school club activities. (High school sophomore)
	easily	Easy to join a "Phase-free certification program", which would combine the resources of various industries, would be more convincing for people. (Rep of the PFA)

DISCUSSION

Based on the above findings, this research illustrates the value creation through phase-free certification (Figure 1).

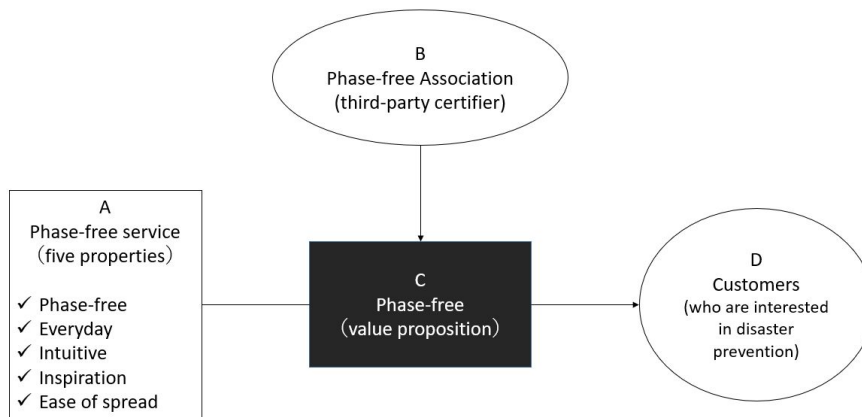


Figure 1: Phase-free value framework.

Phase-free products and services have five properties depicted in box A in Figure 1. This is guaranteed by the Phase Free Association (the box B) through phase-free certification (the box C). Hence, users will trust and use products and services with phase-free certification. Importantly, phase-free certification serves as a value proposition, assuring that the product is useful for disaster prevention.

1) PFA has created a common protocol.

PFA developed “five properties of the phase-free (FPPF)”, a protocol for connecting the stakeholders. The value of phase-free products and services can be judged by whether they meet these five properties or not. In this sense, Phase-Free has created a new framework for understanding, i.e., a common protocol.

2) The use of the resources at hand assures the wide applicability of the phase-free concept.

Phase-free products and services can contribute to disaster prevention not only by adding a special function of disaster prevention to them but also by making a slight modification to the existing products or services. In this sense, they make use of resources that already exist. This opens up the scope of application of the phase-free concept to many products and services.

3) The phase-free certification plays the role of a value proposition.

Once the concept of phase-free is popularized by third-party certification, people will accept the value of products and services with phase-free certification as a matter of course. In other words, they can accept a phase-free ecosystem and can stop investigating the details of the phase-free certification. Thus phase-free certification has become a value proposition in the framework of S-D logic (Vargo and Lusch, 2016, p. 10).

CONCLUSION

This paper presented the phase-free value framework from an examination of how phase-free certification exchanges resources, integrates resources, and

creates value through observation of school education in Naruto city. Although NFT and phase-free certification are similar in resource integration, but this research concludes that there are differences as well. Regarding NFT, stakeholders need to seek out benefits for themselves. However, in phase-free certification, a stakeholder needs to use a common protocol, use the resources at hand, and use the unique phrase “phase-free”. The participating stakeholders have abundant resources, and the key to success is to encourage awareness of the resources that are deriving considerable benefit during emergencies from products and services used in everyday life. The phase-free value framework is a potential practical structure of value creation specified within TPC. We expect that our findings through the lens of S-D logic will be easier to understand by researchers who need practical advice. However, further research is needed on whether this version of the framework can be applied in general or be restricted to disaster prevention.

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