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**Submission date:** 14-Sep-2022 06:05AM (UTC+0700)

**Submission ID:** 1899174550

**File name:** el\_Arsil\_2019\_IOP\_Conf.\_Ser.\_Earth\_Environ.\_Sci.\_255\_012006.pdf (454.79K)

**Word count:** 2996

**Character count:** 17132

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To cite this article: P Arsil *et al* 2019 *IOP Conf. Ser.: Earth Environ. Sci.* **255** 012006

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# Consumers' Intention and Behaviour towards Fish Consumption: A Conceptual Framework

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**Abstract.** Fish is a vital source of animal protein in Indonesia. However, there is a lack of studies examining fish consumption behaviour. This paper proposes a conceptual framework for fish consumption based on the Theory of Plan Behaviour (TPB) and Alphabet theory. Literature review which corresponds with fish purchasing behaviour was used in the formulation of the conceptual model. Five determinants might influence intention to consume fish namely attitude, subjective norms, Perceived Behavioural Control (PCB), information and knowledge as well as habit. This model can be used for understanding fish consumption and exploring the gap between intention and behaviour when consumers make fish consumption decisions.

**Keyword:** Attitude, Behaviour, Conceptual Framework, Consumption, Fish, Intention.

## 1. Introduction

Indonesia is the largest archipelagic country in the World located in Southeast Asia with a total area of approximately 8180.053 km<sup>2</sup>. Two third of Indonesian surface covered with water (3,257,483 km<sup>2</sup>). Entire land area was 1,922,570 km<sup>2</sup> stretching from Sabang to Merauke (west to east), Miangas to Rote (north to south). The water areas include exclusive economic zone, internal waters or water landward and other bodies of waters. The strategic position of Indonesia 'between two oceans: the Pacific Ocean and the Indian Ocean' offer benefits in term of abundant of fishes [1].

The total number of islands is approximately 17,000 with an entire length of coastline was 99,093 km [2]. Therefore, fish is a significant component of people's diet particularly in the coastal area in Indonesia and being as an essential source of animal protein. Indonesia is also known as the world's fourth most populous nation with a total of the population was approximately 262 million people in 2017 [3]. However, how Indonesian consumers behave towards fish consumption is still rarely explored in previous scholarly articles. Studies related to fish consumption behaviour particularly a model to predict the intention of fish consumption is still limited in Indonesia.

The fishery sector in Indonesia is continuing to grow. The contribution of the fishery sector increased from 7.3% in 2014 to 8.3% of the national GDP in 2015. The increasing of fish production was affected by action against illegal fishing from the Indonesian government as well as efforts of local fisherman [1]. Regular fish consumption is also thought of as a healthy habit because it contributes to good health such as decreased risk of cardiovascular disease [4]. "Gemar makan ikan (love to eat fish)" campaign has been promoted by Indonesian government aiming at 1) fulfilling the nutrition needs of the Indonesia people and 2) increasing the level of awareness of the nutritional benefits from fishery products [1]. The average fish consumption was 41.11 kg/capita/year [5] higher than average fish consumption per capita per year in the world which was 18.8 kg/capita/year in 2013 [1]. However, despite the abundant fish production, the study about fish consumption behaviour in Indonesia is still scarce. The aims of this study are proposed an integrative conceptual framework of fish consumption based on the theory of planned behaviour and alphabet theory.



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## 2. A Conceptual Framework Of Consumer Intention To Consume Fish

### 2.1. Theory of Planned Behaviour

Theory of planned behaviour (TPB) has been widely used to predict the intention to consume fish or seafood [1,4,6,7]. According to Ajzen [8], intention to perform behaviour influences by three independent determinants; attitude towards behaviour, subjective norms and Perceived Behavioural Control (PBC) as can be seen in Figure 1. Attitude refers to “the degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour” [4, p.68] or the degree to which an individual has a psychology tendency after evaluating a particular food product [8]. The degree could be positively or negatively such as like-dislike, satisfaction-dissatisfaction. PBC refers to the degree to which an individual perceived the ease or difficulty to perform behaviour [9]. Social norms are social factors. This social norm can be defined as social pressure from people in general (subjective norms) or particular/groups of people (normative beliefs) [6]. The subjective norms might pressure individually to perform the behaviour. According to [4] family is the most important social group that influences eating behaviour.

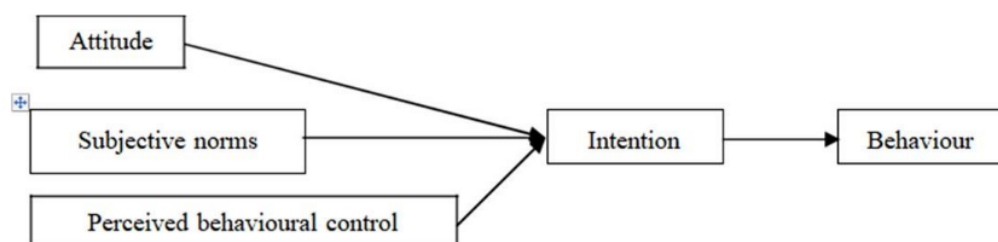


Figure 1. The theory of planned behaviour (adapted from [8]).

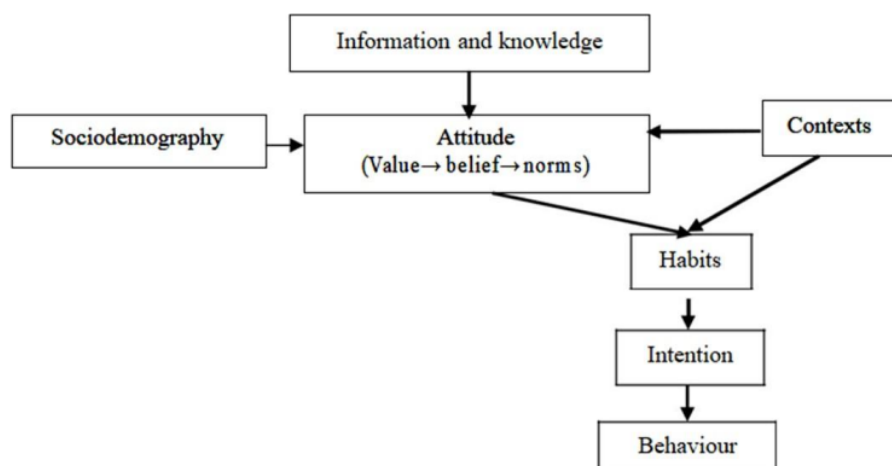
Verbeke and Vackier [4] applied the TPB to understand fish consumption intention among 429 respondents in Belgium. They reported that a positive attitude and high subjective norm together with PCB affect the fish consumption positively. The habit was a regressor between intention and behaviour. Attributes that considered important for consumers are taste and health. They explain that attitude is made up of the evaluative and emotive components. Evaluative judgements refer to “perceived costs and risks and benefits of performing a given behaviour” (4, p. 69) while emotive judgement associated with the positive or negative feeling emerging from performing a behaviour [4]. The habit was included in perceived behaviour together with facilitating condition and past experience.

Some previous studies are examining the consumers’ perception and behaviour associated with fish consumption. Gempesaw et al. [11] examine consumer perception about fish and aquaculture product in the North-east and Mid-Atlantic region in the US using a logit model for choice. They assumed that the choice of consuming fish was influenced by socioeconomic factors of respondents, past experience, consumers’ perception and preference towards seafood products and choice of other seafood products. Tuu et al. [6] applied TPB theory with the extension of the role of norms in explaining the intention to consume fish in Vietnam. They reported that attitude, social norms, descriptive norms together with attitude and PBC have a significantly positive effect toward behavioural intention to consume fish. Intention and PBC are identified as a significant predictor in this study. Using the basic model of TPB, [11] investigated consumer intention to consume fish. The relationship between intention-behaviour and basic constructs of TPB together with moral obliga-

tion, availability, involvement in health was examined using structural equation modelling. It is also reported that attitudes are the most significant positive predictor of the intention-behaviour while other predictors such as subjective norms, perceived behavioural control, moral obligation and health involvement correlated to intention. Other scholar reported the relationship between consumer's age and the frequency of eating seafood using structural equation modelling [12]. Age has an association with seafood consumption while this association mediate the attitude of fish consumption, health involvement and perceived convenience like time used to prepare meals.

## 2.2. Alphabet theory

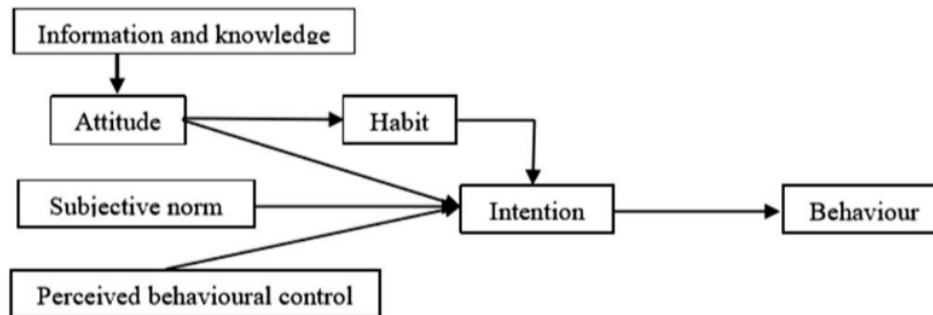
Alphabet theory was introduced by Zepeda and Deal [13] to explain consumer behaviour towards organic and local food. This theory builds from two theoretical frameworks namely: the Value-Belief-Norm (VBN) theory and the Attitude-Behavioural-Context (ABC) theory [14,15]. VBN theory firstly was used in explaining pro-environmental behaviour. In this theory, behaviour was affected by norms, while norms were determined by belief. Besides, values influence belief. The ABC theory showed that behaviour was affected by attitude and context. The major important thing that in this theory, experience/habit take into account as a mediator factor between attitude and intention while information and knowledge influence consumer's attitude (Figure 2). This model supported previous studies that habit influence consumers' behaviour towards eating fish [4,10].



**Figure 2.** Adapted alphabet theory from Zepeda and Deal [13]

### 2.3. An integrative model of fish consumption

The TPB has been used to explain the intention to consume fish [4, 6,11]. However, this theory did not explained how past experience and habits, as well as consumers' knowledge, influences attitudes and fish-eating behavioural as emphasized by [4]. We proposed an integrative framework by including the alphabet theory with past experience and habit as a mediator between attitude and behavioural intention. Sociodemographic respondents are a controlled variable for this model (Figure 3).



**Figure 3.** A proposed framework towards fish consumption behaviour

#### 2.4. Attitude

Attitude is the primary determinant explaining fish consumption behaviour [7, 9, 16]. Sensory characteristics involving fish quality such as freshness, texture, taste and smell are identified as key determinants of attitude eating fish [9, 16, 17]. This sensory characteristic affects consumers' psychological tendency to evaluate fish and seafood product. This evaluation can be positively or negatively with different degree ranging from like-dislike, favour-disfavour. The formation of negative motivation to eat fish commonly affected by some attributes such as sensory characteristic (unpleasant smell and bone) [9, 16]. Gempesaw et al. [10] examined consumer perception about fish and aquaculture products in the North-east and mid-Atlantic region. They reported that consumer decision to purchase fresh finfish and shellfish products because the products were good taste. Ease of preparation, nutritional value, level of experience of the food, product characteristics are also an important consideration when choice aquaculture products [7].

Health benefits are also identified as a factor influencing consumers towards eating fish. There have been two perceptions of health concern when consuming fish [9, 18]. Firstly, eating fish relating to health benefits in term of nutritional values (e.g. omega 3, low-fat content, fatty acid), and decrease the risk of heart attack. Opponent to this, health risk was identified as a barrier to consuming fish by consumers associated with the chemical contaminant such as mercury and harmful microbe.

Price of fish was varied widely from cheap to expensive for different kind of fishes in different markets. Fish products are also believed to be more expensive compared to meat products such as sausage [19].

#### 2.5. Social norm

The family was reported to be a barrier or supportive motivation when a family member gives negative or positive feedbacks. Negative feedback from family members tends to encourage a person who responsible for cooking not to prepare fishmeal in the household [20].

#### 2.6. Perceived behavioural control

Convenience to prepare and cook fish is reported affected the intention towards fish consumption. This might be related to time and effort to prepare and cook fish. Difficulties in preparation and cooking fish can be a barrier towards consuming fish. The level of competence in doing the preparation and cooking fish depend on the level of knowledge, skill and competency in fish cooking, and evaluating the quality of fish. Lack of competent could be barriers to fish consumption [21, 22]. For example, 'traditional fish eater' and 'fish lover' tend to have higher skills and competencies related to preparing and cooking fish [23, 24].

#### 2.7. Information and knowledge

A consumer who has more knowledgeable about fish such as health and nutritional value as well as a contaminant in the fish, tend to consume more fish than unknowledgeable people. Knowledgeable people seem to be older and educated people [19]. Khan et al. [25] investigated fish eating behaviour in the kingdom of Saudi Arabia. They reported that consumer knowledge concerning the health benefits of fish nutritional value has a positive influence on the intention to consume fish.

#### 2.8. Habit and past experience

Habit, regularly and repeated behaviour is less investigated by scholars when examining fish consumption. Among them, there are [4] who reported that fish consumption habit is a sign as a strong predictor of fish consumption frequency. Similar to this, pre-existing habits is strongly affected by fish-eating habit [23].



### 2.9. Socio-demographic respondents

Seniors seem to eat fish more often than younger people do [20,26]. Children age under ten years old seems to express their dislike to consume fish [20]. Khan et al. [25] reported that respondents' level of education and age have an impact on consumers' preference and intention to consume fish.

### 3. Conclusions

This present study synthesises and organises previous studies associated with consumer behaviour consuming fish. In particular, we propose the conceptual framework use <sup>10</sup> to explain relevant attributes of fish consumption. An integrative conceptual framework from the theory of planned behaviour and the alphabet theory has been introduced to explain fish consumption behaviour. The identified main variables for this framework including attitude, social norms, perceived behavioural control, information and knowledge and habits.

### Acknowledgement

This study was funded by Directorate General of Higher Education (DGHE) under the scheme Overseas Collaboration and International Publication Research (contract number 1963/UN23.14/PN/2018).

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