Cultural influences on vegetarian food consumption: insights from Germany and Thailand using the motivation-opportunity-ability model

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Abstract

Purpose – The purpose of this study is to develop and test a conceptual model based on the motivation-opportunity-ability (MOA) framework to examine how motivation, ability and constraints influence both the intention to consume and actual consumption behaviour. By integrating social, personal, and environmental factors, the study aims to identify cultural similarities and differences in dietary decision-making.

Design/methodology/approach – This study applies the MOA framework and Partial Least Squares Structural Equation Modelling (PLS-SEM) to examine factors influencing vegetarian food consumption across cultures. Data were collected via online questionnaires from 241 participants in Thailand and 239 in Germany in 2022.

Findings – In Thailand, motivation, constraints and ability statistically and significantly shaped vegetarian food intentions, while ability was insignificant in Germany. Social identity and belief significantly influence attitudes across cultures. Attitude statistically mediated these effects in Germany but not in Thailand. In Germany, attitude and intention jointly mediate social identity and beliefs' impact on behaviour.

Research limitations/implications – The focus on Thailand and Germany limits generalisability. Cultural differences in scale usage may bias cross-cultural comparisons. A narrow scope on general vegetarian perceptions overlooks factors like personality or marketing. Self-reported data also introduces potential biases.

Practical implications – Businesses can leverage these findings by marketing sustainability and health, promoting plant-based local dishes, highlighting the benefits of packaging and hosting cooking classes to enhance community acceptance.

Social implications – Vegetarian consumption promotes sustainability, health and animal welfare, offering insights for policies and campaigns to advance ethical, sustainable food systems.

Originality/value – This is the first study to apply the MOA framework to vegetarian food consumption across Germany and Thailand, integrating social, personal and environmental factors to reveal cultural impacts on dietary choices.

Keywords Motivation-opportunity-ability model, Vegetarian food, Cross-cultural comparison, Consumer buying behaviour, Structural equation modelling

Paper type Research article

1. Introduction

A plant-based or vegetarian diet, omitting meat, poultry, and seafood, is an environmentally friendly eating habit. Depending on the degree of restriction, sub-types include flexitarians (occasional meat), pescatarians (seafood only), ovolacto-vegetarians (including eggs and dairy), and vegans (excluding all animal products and those involving animal exploitation) (Hargreaves *et al.*, 2021). Globally, vegetarian diets could reduce farmland by 27–84%, water use by 24–56%, and greenhouse gas emissions by 24–56%, making nourishment more effective (Brown, 2022; Kustar and Patino-Echeverri, 2021). Yet, meat production continues to rise (OECD and FAO, 2024), increasing diverse environmental criticism (Brown, 2022; Kwasny *et al.*, 2022).

Most research on vegetarian consumption examines single motives, such as health, religion, environmental protection, animal welfare, or cost, without integrating these into a broader, cross-cultural perspective (North *et al.*, 2021; MacInnis and Hodson, 2021; Ploll and Stern, 2020; Martinelli and Canio, 2022; Kim *et al.*, 2023). Even though research suggests that factors such as social identity, belief systems, and perceived constraints can differ markedly between cultures (Winterstein *et al.*, 2024).

Similarly, while the Motivation-Opportunity-Ability (MOA) model has been verified by several scholars (Maclnnis *et al.*, 1991; Stokmans, 2005; Ölander and Thøgersen, 1995) and applied to sustainable consumption (Tong *et al.*, 2023; Zhu and Habisch, 2020; Dong *et al.*, 2022; Soma *et al.*, 2021), its use for understanding vegetarian food choices across cultures is limited. The MOA model is suggested as a framework for explaining the role of motivation, ability, and opportunity in influencing behavioural intentions and actual buying behaviour (Ölander and Thøgersen, 1995).

To address these gaps, this study aims to develop a conceptual model, applying the MOA framework, to examine the cross-cultural drivers of vegetarian food consumption in Germany and Thailand.

While Asia has the highest proportion of vegetarians globally, only 8% of Thais followed a plant-based diet in 2019 (Puranabhandu, 2021; Hargreaves *et al.*, 2021). Meanwhile, the market is projected to grow to 15% by 2025 (USDA, 2021), partly driven by cultural and religious influences such as Buddhism and seasonal festivals (Thailand Now, 2024). Hence, Thailand represents a collectivist, religiously influenced and promising Eastern vegetarian food market (Hofstede, 2001; Puranabhandu, 2021; USDA and GAIN, 2021). In contrast, Germany shows more sustained engagement, with 11% of the population identifying as vegetarians and over half as flexitarians, making it a key market for plant-based foods (IfD Allensbach, 2024; USDA and GAIN, 2023). So, Germany is an individualistic, environmentally conscious and established Western vegetarian food market.

This study is the first to apply the MOA model to vegetarian choices in Germany and Thailand. It uses a quantitative survey and PLS-SEM structural equation modelling with mediation and predictive analysis to examine how motivation, ability, and external constraints shape both intention and actual behaviour. By integrating social, personal, and environmental factors, the research provides insights into cultural differences and behavioural drivers of vegetarian food consumption, offering practical implications for policy and marketing.

2. Conceptual model development

The MOA model explains why people engage in certain behaviours, requiring motivation, opportunity, and ability to be present for a behaviour to occur (Stokmans, 2005; Ölander and Thøgersen, 1995; Adrita and Mohiuddin, 2020). Consumers' dietary habits are shaped by goal-directed behavioural patterns (motivation) (Verplanken and Aarts, 1999), the ability to solve problems or break free from habits (ability) (Rothschild, 1999), and environmental factors (opportunity) (Parkinson *et al.*, 2016). Accordingly, this study hypothesises that these factors impact the INT to purchase vegetarian food.

2.1 Motivation

The MOA model's "Motivation" element overlaps with Ajzen (1991) Theory of Planned Behaviour (TPB), which emphasises attitude (ATT), subjective norms, and perceived behavioural control as predictors of intention. In contrast to TPB, the MOA model adds external and situational dimensions (Ölander and Thøgersen, 1995). This makes MOA especially useful for food choices (Tong *et al.*, 2023), where external constraints such as cost, availability, or convenience often prevent intentions from becoming behaviour. While ATT and INT appear in both models, MOA frames them in a broader context: attitude reflects how motivation interacts with abilities and opportunities, and intention leads to action only when internal and external factors align.

Ölander and Thøgersen (1995) applied the model in a study on pro-environmental consumer behaviour and defined motivation by the constructs of belief (BE) evaluations, ATT towards behaviour, and social norms (SN). Schenk *et al.* (2018) interpreted the motivation to avoid meat as a combination of SN and self-identity. Zhang and Lang (2018) conducted an MOA model on eco-fashion products, including self-identity and ATT in the construct. Accordingly, in this research, we defined motivation as consisting of SN, social identity (SI), and BE that, in turn, form ATT.

SN can be described as the accepted standards of conduct among groups (Lapinski and Rimal, 2005). A study by Povey *et al.* (2001) confirms a correlation between subjective norms and vegetarianism.

Social Identity Theory (Turner and Oakes, 1986) suggests that individuals adopt behaviours consistent with the norms of the social groups they identify with. Therefore, SI influences attitudes, as aligning with a group often means adopting its consumption values, including dietary preferences (Kadic-Maglajlic *et al.*, 2019; Legere and Kang, 2020).

Similarly, beliefs (BE), shape how individuals evaluate vegetarian food (Smillie *et al.*, 2024). When people believe their food choices have a meaningful impact, they are more likely to develop positive attitudes toward those choices (Dillon and Gayford, 1997; Ogunbode and Arnold, 2014).

Ajzen and Fishbein (2000, p. 3) define ATT as "the evaluation of an object, concept, or behaviour along a dimension of favour or disfavour, good or bad, like or dislike." Ajzen (1991) found that ATT correlates well with behavioural INT, serving as a good indicator of INT (Ajzen, 1991). Hanss *et al.* (2016) also found a green ATT to be a good predictor of sustainable grocery shopping. In complex behavioural contexts, ATT can act both as components of motivation (predicting intentions) and as outcomes influenced by other external factors (Fishbein and Ajzen, 2010).

Accordingly, research shows that SN, SI, BE, and ATT can have a positive effect on the INT for sustainable consumption. Consequently, the first hypotheses are developed.

H1. Motivation positively influences consumers' buying INT of vegetarian foodSpecifically,

H1a. ATT positively influences consumers' buying INT of vegetarian food

H1b. SI positively influences consumers' ATT toward vegetarian food

H1c. SN positively influences consumers' ATT toward vegetarian food

H1d. BE positively influences consumers' ATT toward vegetarian food

In addition, we also investigate direct relationships between each element of motivation and intention.

H1e. SI positively influences consumers' buying INT of vegetarian food

H1f. SN positively influences consumers' buying INT of vegetarian food

H1g. BE positively influences consumers' buying INT of vegetarian food

2.2 Opportunity and constraint

While the traditional MOA model conceptualises Opportunity as the presence of favourable external conditions that enable behaviour (Maclnnis *et al.*, 1991), we redefine this element as "Constraints" in the context of vegetarian food consumption. This shift is intentional, as many consumers face barriers such as limited availability, high costs, or lack of social support, which are more salient than enabling factors when making sustainable dietary choices. This reinterpretation aligns with prior research suggesting that a lack of opportunity can be operationalised as the presence of constraints, especially in contexts where behaviour change is challenging or culturally sensitive (Parkinson *et al.*, 2016; Rothschild, 1999).

Constraints are categorised into intra-personal, inter-personal, and structural types, which better capture the ways external factors may inhibit motivated individuals from acting on their intentions (Bălău, 2019). This adaptation allows the model to more accurately reflect the real-world barriers that influence vegetarian food consumption decisions across cultural contexts.

Intra-personal constraints are personal psychological factors that affect an individual's preference for behaviour, further referred to as "Lack of Interest" (LOI) (Aziz *et al.*, 2021). LOI plays a crucial role in consumers' decision-making regarding activity participation as they can change over time or in different circumstances (Kattiyapornpong and Miller, 2009).

Inter-personal constraints (PC) refer to external influences from others that affect how a consumer behaves, such as advice or social support. These social factors can act as barriers, preventing consumers from following their intentions (Bălău, 2019; Aziz *et al.*, 2021).

Structural constraints (STR) denote the external factors affecting an individual decision, including price, time, accessibility, and availability, that prevent consumers from realising their INT (Bălău, 2019; Aziz *et al.*, 2021; Jahn *et al.*, 2021).

In the applied MOA model, we redefined the concept of opportunity as a constraint, as this may reduce consumers' INT to perform specific behaviours. Hence, the following hypotheses are developed.

H2. Constraints negatively influence consumers' buying intention of vegetarian foodSpecifically,

H2a. LOI negatively influences consumers' buying INT of vegetarian food

H2b. PC negatively influences consumers' buying INT of vegetarian food

H2c. STR negatively influences consumers' buying INT of vegetarian food

2.3 Ability and self-efficacy

In the MOA framework, Ability traditionally refers to an individual's capacity to perform a behaviour (Bos-Nehles *et al.*, 2013; Nicholls, 1984). However, in this study, we redefine Ability as Self-Efficacy (SE), the individual's perceived confidence in their ability to act, based on Banduras (1986) social cognitive theory. This shift is intentional and theoretically grounded. SE better captures the psychological aspect of ability in contexts that involve complex or personally challenging behaviours, such as shifting to a vegetarian diet. SE is defined as "people's judgments of their capabilities to organise and execute courses of action required to attain designated types of performance" (Bandura, 1986, p. 391). It has been widely adopted in behavioural models as a more accurate predictor of sustainability-related choices. In the context of vegetarian consumption, individuals often face social norms, ingrained habits, or unfamiliarity with plant-based options, making confidence and self-perceived competence critical for action. Previous MOA-based studies have similarly operationalised ability as SE, especially when personal commitment or lifestyle change is required (Willmott and Parkinson, 2017; Bălău, 2019). Therefore, this theoretical alignment justifies the following hypothesis.

H3. SE positively influences consumers' buying INT for vegetarian food.

2.4 Behavioural intention and actual behaviour

Behavioural INT is indicated as an intentional behaviour that triggers an individual's performance of ACTUAL (Fishbein, 1967). According to Ajzen (1991), INT is considered to capture motivators that influence behaviour. INT manifests how much effort people are willing to put in and how much effort they plan to put in to perform the behaviour. Specifically, in the context of marketing, Filieri *et al.* (2021) described behavioural INT is deemed to be a signal of ACTUAL. Trivedi and Yadav (2020) discuss that behavioural INT is a critical indicator of customer loyalty. Accordingly, we assume that the higher the willingness of consumers to purchase vegetarian food, the more likely they are to purchase. Hence, the following hypothesis is proposed.

H4. Consumers' purchase INT positively affects their ACTUAL of vegetarian food purchases.

2.5 Model development

While prior studies have explored isolated factors influencing vegetarian consumption (e.g. health or environmental motives), few have adopted an integrated framework that captures the interaction of motivational, structural, and personal capacity factors. Moreover, little research has compared these dynamics across cultures. By applying the MOA model and adapting it to reflect real-world constraints and self-efficacy, this study addresses these gaps. The proposed theoretical framework (see Figure 1) illustrates the hypothesised relationships, clearly mapping each construct to the MOA elements and indicating the relevant hypothesis codes.

3. Materials and methods

3.1 Data collection

A power analysis was conducted via G*Power to determine sample size with 0.8 of statistical power and an effect size of 0.30. The results recommended 190 as the minimum sample size.
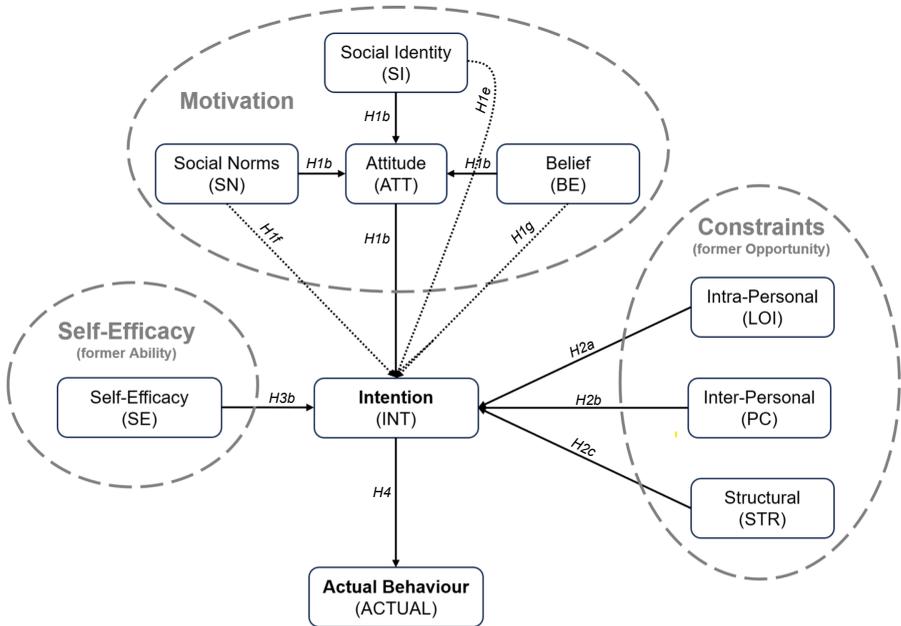

Figure 1. Conceptual model. Source: Authors' own work

After data cleaning, 241 questionnaires were valid for further data analysis in Thailand, 239 in Germany. Participants were included only if they reported eating vegetarian meals at every meal, ensuring consistent and sustained engagement with vegetarian food consumption. The survey was conducted from September to December 2022.

As the study relies on self-reported behaviour, it is subject to response biases such as social desirability, recall, and acquiescence bias (van de Mortel, 2008). To reduce these effects, we ensured anonymity and confidentiality and framed questions neutrally to avoid leading responses. A pre-test helped refine clarity and tone, while administering the survey in English minimised translation bias and supported cross-cultural comparability (Harzing, 2005). Despite these measures, self-reporting remains a limitation, and future research could benefit from incorporating observed or tracked behavioural data.

Purposive, snowball, and convenience sampling techniques were employed due to the exploratory nature of the study and the need to reach individuals with experience with vegetarian food consumption. Purposive sampling helped identify relevant respondents who had previously engaged in such behaviour. Snowball sampling allowed us to access hard-to-reach participants through referrals, while convenience sampling ensured broader participation from accessible groups (Etikan, 2016). Probability sampling was not feasible due to the lack of a comprehensive sampling frame for vegetarian consumers in Thailand and Germany. We acknowledge that the use of non-probability methods may introduce selection bias and limit the generalisability of findings. This is discussed further in the limitations section.

3.2 Questionnaire design

To ensure content validity, the questionnaire included items adapted from prior validated research in consumer behaviour, sustainable food consumption, and MOA-based studies. All items were measured using a 5-point Likert scale, ranging from 1 = strongly disagree to 5 = strongly agree. Each construct was measured as follows.

(1) BE: 3 items from Tweneboah-Koduah *et al.* (2020), 2 items from Schenk *et al.* (2018).

(2) SI 5 items: 2 items from Schenk *et al.* (2018), 3 items from Zhang and Lang (2018).

(3) SN: 3 items from Schenk *et al.* (2018).

(4) ATT: 3 items from Toch (2020).

(5) PC: 3 items from Bălău (2019), 1 item from Schenk *et al.* (2018).

(6) LOI: 3 items from Bălău (2019), 1 item from Schenk *et al.* (2018).

(7) STR: 4 items from Adrita and Mohiuddin (2020).

(8) SE: 3 items from Bălău (2019).

(9) INT: 2 items from Toch (2020), 1 item from Ahmad *et al.* (2021).

(10) ACTUAL: 3 self-developed items based on participants' reported vegetarian consumption

The distributed questionnaire can be viewed in the Appendix

3.3 Statistical analysis

In this study, Partial Least Squares Structural Equation Modelling (PLS-SEM) was employed using SmartPLS 3. This method was selected due to its suitability for exploratory research, especially when the sample size is moderate and the data may not follow a normal distribution (Hair *et al.*, 2019). PLS-SEM is particularly effective for analysing complex models with

multiple constructs and mediating relationships. This analysis aligns with the study's aim to assess the interplay between motivation, constraints, self-efficacy, and behaviour. Additionally, we applied bootstrapping to test mediation effects, as it offers greater statistical power than traditional methods like the Sobel test (Zhao *et al.*, 2010).

4. Findings

4.1 Demographic profile

In Thailand, most respondents are male (57.7%), aged 25 or younger (31.5%), and hold a university or college degree (86.7%). 31.1% identified as vegetarian, 28.2% as flexitarian (mostly eating vegetarian but occasionally meat or fish). In Germany, the majority of participants are female (68.1%), aged 26–30 (37.7%), and hold a university or college degree (60.8%). 46% are flexitarian, 16% vegetarian. For details, see Table 1.

The sample is not nationally representative, as participants were selected based on their engagement with vegetarian food and recruited through non-probability sampling. Accordingly, respondents with a college degree are disproportionately strongly represented. While appropriate for the study's focus, this may introduce selection bias and limit the generalisability of the findings.

4.2 Partial least squared structural equation modelling analysis

4.2.1 Evaluation of the measurement model. The convergent validity test, including factor loadings and average variance extracted (AVE), showed that all loading values are greater than 0.6 (Hair *et al.*, 2019) and all constructs achieve a threshold value of 0.5 (Risher and Hair). Thus, convergent validity is assured.

Internal consistency consists of Cronbach's alpha, Composite Reliability (CR), and Dijkstra-Henseler's rho_A (Ramayah *et al.*, 2018). Cronbach's alpha varied between 0.738 to 0.909 in the Thai study and between 0.653 to 0.919 in the German study, which fulfils the cut-off value of 0.6 suggested by Hulin *et al.* (2001). In terms of CR, all values are greater than a cut-off value of 0.7 (Hair *et al.*, 2019). Rho_A is indicated as the most vital and reliable measure of internal consistency reliability in PLS-SEM (Henseler *et al.*, 2016). As all values

Table 1. Demographic profile of respondents

Category	Type/Groupe	Germany #	%	Thailand #	%
Gender	Female	163	68.1	102	42.3
	Male	69	28.9	139	57.7
	Others	7	3.0	0	0
Age (Years)	Up to 25	81	34.1	76	31.5
	26–30	90	37.7	58	24.1
	31–35	43	18.1	23	9.5
	36–40	16	6.5	28	11.6
	41 or older	9	3.6	56	23.2
Education	Secondary school	38	15.9	0	0
	High school certificate	47	19.6	29	12
	University/College	145	60.8	209	86.7
	Others	9	3.6	3	1.3
Diet	Vegan	12	5.0	25	10.4
	Vegetarian	38	16.0	75	31.1
	Flexitarian	110	46.0	68	28.2
	Others	79	33.0	73	30.3

Source(s): Authors' own work

are greater than the suggested cut-off value of 0.7 (Wong, 2019), the internal consistency of the data from Thailand and Germany is confirmed.

In addition, regarding discriminant validity, the Heterotrait-Monotrait (HTMT) ratio of correlation is tested, which is indicated as an emerging and critical approach to assess discriminant validity, especially when PLS-SEM is used (Hair *et al.*, 2019; Henseler *et al.*, 2015). The recorded Heterotrait-Monotrait ratio (HTMT) values reached a maximum of 0.889 and 0.891, indicating a strong distinction between the constructs being measured. The academic community has put forth varying recommendations regarding acceptable HTMT thresholds. Some researchers, such as Little and Kline (2016), advocate for a threshold value below 0.85. In contrast, others, including Teo *et al.* (2008) and Gold *et al.* (2001), suggest that a value of less than 0.90 is also permissible. Further guidance provided by Henseler *et al.* (2015) and Voorhees *et al.* (2016) recommends treating 0.85 as a conservative benchmark while allowing for a more liberal cutoff at 0.90, as noted by Henseler *et al.* (2015). Thus, in our analysis, we adopted a threshold value of 0.90. Given that all HTMT values obtained were below this criterion, we confidently assert that the discriminant validity of each variable in our study has been robustly established. This finding underscores the distinctiveness of the constructs and enhances the reliability of our overall research results.

4.2.2 Evaluation of structural model. (1) Collinearity and path coefficients

For the Thai (see Table 2) and German studies (see Table 3), multicollinearity issues do not exist as variation inflation factor (VIF) values are lower than 5 (Hair *et al.*, 2019). Thai results of confidence intervals show that zero does exist in the path between ATT and INT, BE and INT, SN and INT, PC and INT, and SN and ATT. Thus, significant effects on these five paths are not confirmed.

The insignificant link between ATT and INT in Thailand highlights an attitude-behaviour gap, likely due to practical constraints such as price, availability, and cultural norms favouring meat. The lack of significance between SN and both ATT and INT suggests limited social influence, possibly because vegetarianism is not widely practised or promoted within Thai social groups. Similarly, the gap between BE and INT implies that while consumers may recognise health or environmental benefits, habit or taste preferences override intention. Lastly, the weak effect of PC on INT indicates that food choices may be perceived as personal decisions, reducing the impact of interpersonal influence. Figure 2 visualises the path diagram of the Thai study.

Table 2. Collinearity and structural model path coefficients – Thailand

Path	VIF	Path coefficient	*t*-values	*p*-values	95% CI	Results	
ATT → INT	3.830	0.148	1.500	0.134	[−0.029, 0.359]	H1a	Reject
SI → ATT	*2.150*	*0.695*	*8.611*	*****	*[0.518, 0.827]*	H1b	*Support*
SN → ATT	2.151	0.056	0.933	0.351	[−0.060, 0.172]	H1c	Reject
BE → ATT	*2.931*	*0.162*	*1.936*	***	*[0.004, 0.336]*	H1d	*Support*
SI → INT	*3.159*	*0.235*	*2.245*	****	*[0.010, 0.416]*	H1e	*Support*
SN → INT	2.288	0.080	1.209	0.227	[−0.055, 0.203]	H1f	Reject
BE → INT	3.193	0.042	0.483	0.629	[−0.123, 0.217]	H1g	Reject
LOI → INT	*2.134*	*−0.197*	*3.065*	****	*[−0.315, −0.060]*	H2a	*Support*
PC → INT	2.751	0.136	1.644	0.100	[−0.019, 0.303]	H2b	Reject
STR → INT	*3.346*	*0.191*	*2.139*	****	*[0.011, 0.361]*	H2c	*Support*
SE → INT	*1.956*	*0.302*	*4.224*	*****	*[0.174, 0.453]*	H3	*Support*
INT → ACTUAL	*1.008*	*0.273*	*3.971*	*****	*[0.138, 0.407]*	H4	*Support*

Note(s): ***p < 0.001, **p < 0.05, *p < 0.1
Source(s): Authors' own work

Table 3. Collinearity and structural model path coefficients – Germany

Path	VIF	Path coefficient	t-values	p-values	95% CI	Results	
ATT → INT	3.205	0.403	5.847	***	[0.262, 0.529]	H1a	Support
SI → ATT	1.981	0.386	6.488	***	[0.272, 0.503]	H1b	Support
SN → ATT	1.474	0.045	0.880	0.379	[−0.054, 0.147]	H1c	Reject
BE → ATT	1.754	0.455	8.250	***	[0.336, 0.555]	H1d	Support
SI → INT	2.650	0.358	4.987	***	[0.206, 0.488]	H1e	Support
SN → INT	1.570	0.027	0.548	0.584	[−0.075, 0.122]	H1f	Reject
BE → INT	2.369	0.039	0.645	0.519	[−0.075, 0.159]	H1g	Reject
LOI → INT	1.960	−0.137	2.628	**	[−0.243, −0.040]	H2a	Support
PC → INT	1.651	−0.055	1.128	0.259	[−0.158, 0.029]	H2b	Reject
STR → INT	1.681	−0.065	1.361	0.174	[−0.157, 0.027]	H2c	Reject
SE → INT	1.661	−0.032	0.713	0.476	[−0.118, 0.058]	H3	Reject
INT → ACTUAL	1.000	0.732	14.247	***	[0.622, 0.819]	H4	Support

Note(s): ***$p < 0.001$, **$p < 0.05$, *$p < 0.1$
Source(s): Authors' own work

In addition, German results of confidence intervals show that zero does exist in the paths between SE and INT, BE and INT, SN and INT, PC and INT, STR and INT, and SN and ATT. As a result, the significant effects of these six paths are not detected. The lack of a significant association between SN and both ATT and INT suggests that German consumers form attitudes independently of social expectations, reflecting the country's individualistic and pluralistic culture. The belief-intention gap implies that while consumers recognise vegetarianism's benefits, this doesn't always translate into motivation to act. As with Thai consumers, the lack of effect from PC highlights strong food autonomy. The insignificance of the association of STR suggests that Germany's mature vegetarian market removes practical barriers. Lastly, SE may not predict INT because most consumers already feel confident, and their decisions may be value-driven rather than based on perceived ability. Figure 3 visualises the path diagram of the German study.

(2) In-sample prediction

In PLS-SEM, R^2 explains in-sample predictive power (Hair *et al.*, 2019). A general rule to interpret R^2 values is that R^2 of "0.75, 0.50, and 0.25 can be considered substantial, moderate, and weak" (Hair *et al.*, 2019, p. 11).

Accordingly, in the Thai study, the value of R^2 for ACTUAL is 0.175, indicating a weak-to-moderate level of predictive power. This reflects a common challenge in behavioural research, where human actions are influenced by numerous factors beyond those captured in a single model. R^2 for ATT and INT are 0.734 and 0.675, addressing a strong and moderate-to-strong level of predictive power. In the German study, the value of R^2 for ACTUAL is 0.536, addressing a moderate level of predictive power. The value of R^2 for ATT is 0.621, indicating a moderate-to-strong level of predictive power, while the value of R^2 for INT is 0.766, which means a strong predictive power of this construct.

(3) Out-of-sample prediction

Out-of-sample prediction is well suited for estimating "the model for the analysed sample" and evaluating "its predictive performance on the data" (Hair *et al.*, 2019, p. 12). Accordingly, PLSpredict is applied to evaluate "out-of-sample predictive power" of our proposed model, which is "a holdout sample-based procedure that generates case-level predictions on an item or a construct level" (Shmueli *et al.*, 2019, p. 2324). In this study, tenfold applied in PLSpredict is used to assess the predictive performance of endogenous
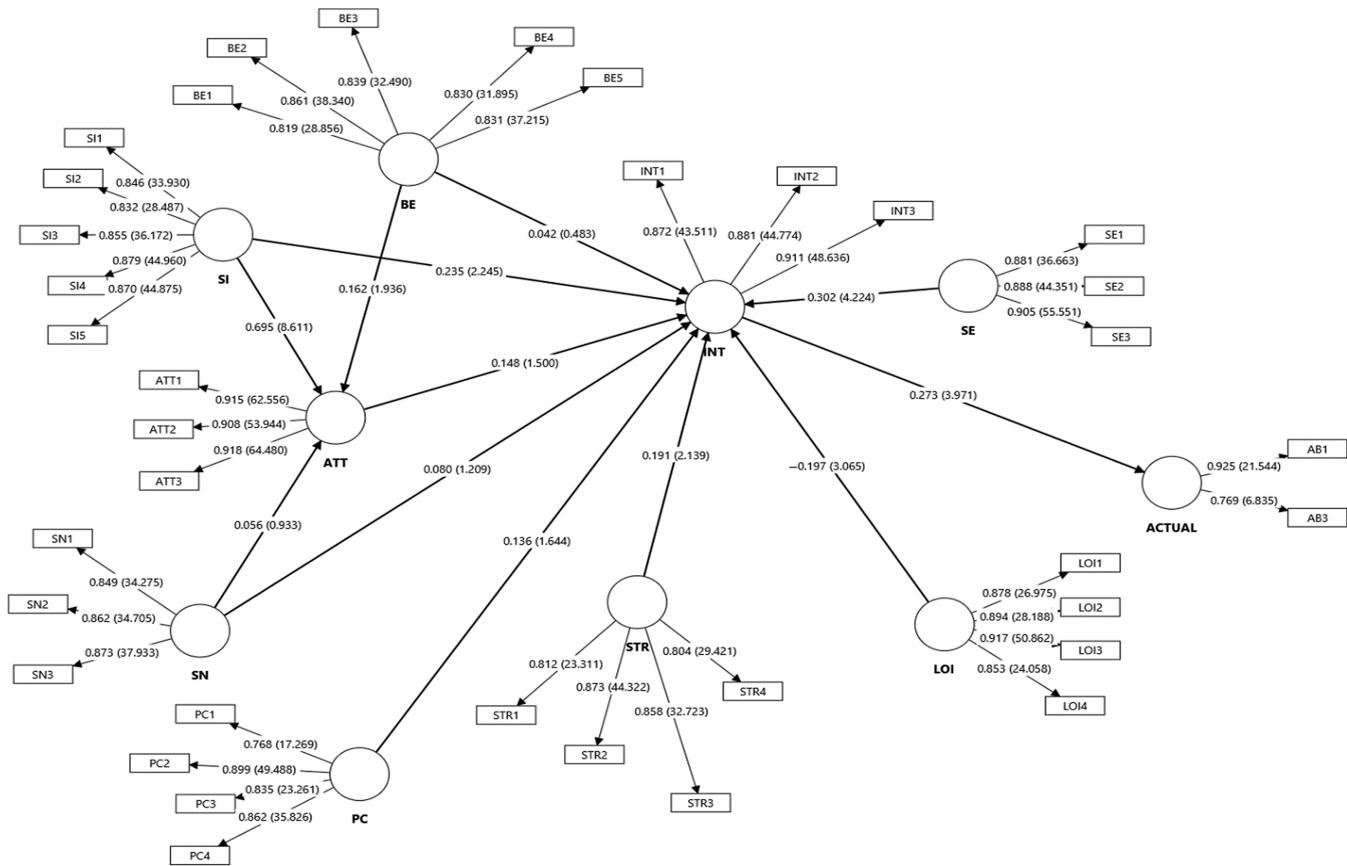
Figure 2. Structural model presenting path coefficients and *t*-values – Thailand. Source: Authors' own work
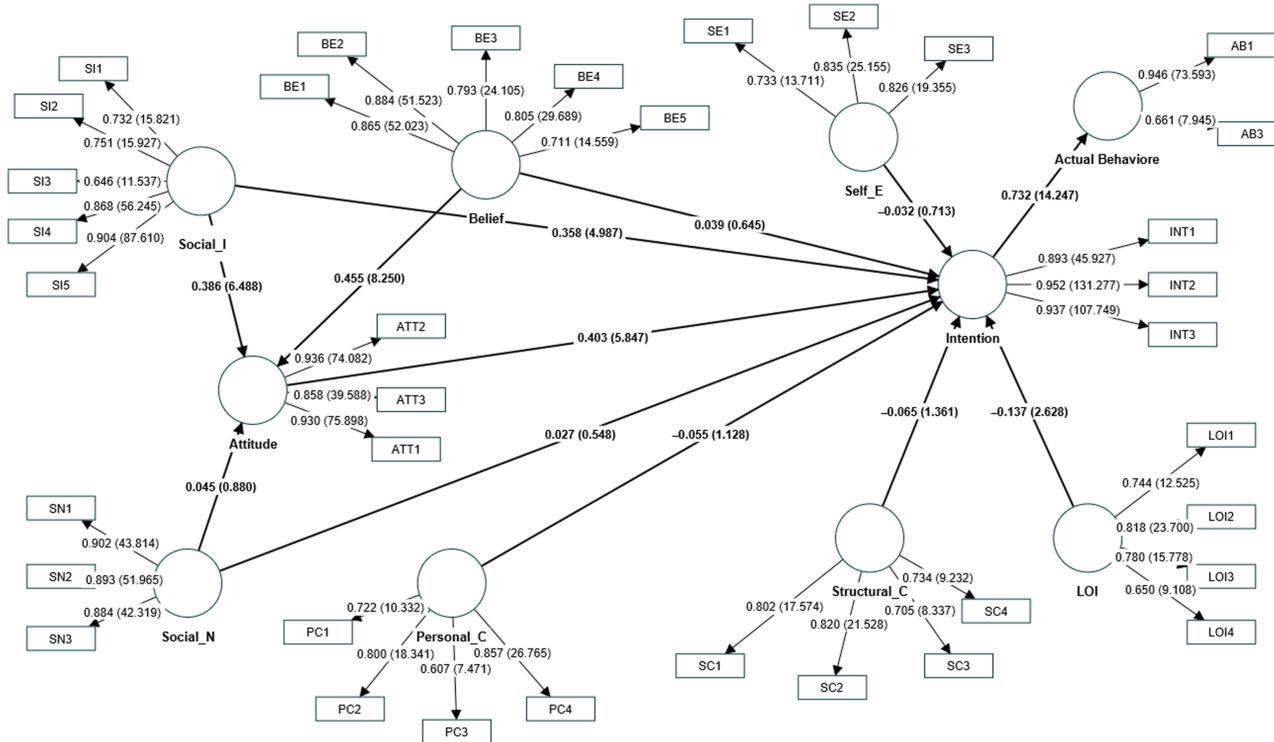
Figure 3. Structural model presenting path coefficients and *t*-values – Germany. Source: Authors' own work

constructs of ACTUAL, ATT towards vegetarian food, and INT. As revealed in Table 4, we can conclude that all indicators of the three constructs surpass the naive benchmark, as Q^2 predicted values are larger than 0. Next, we compared RMSE values in PLS-SEM with those of the naive LM benchmark.

In the Thai study, only AB1 presented RMSE value in PLS-SEM higher than LM benchmark, while other indicators possessed a higher RMSE value in PLS-SEM than LM benchmark. Referring to the guideline of Shmueli *et al.* (2019), if the majority of the construct's indicators presented a lower RMSE value in PLS-SEM than that in LM benchmark, then medium predictive power exists. Accordingly, it can be said that this model possesses a medium level of predictive power.

In contrast, in the German study, only two indicators, ATT2 and INT1, present RMSE values in PLS-SEM lower than the LM benchmark. Following the recommendation of Shmueli *et al.* (2019), we can conclude that the model has low predictive power. This is not unexpected given the exploratory nature of the study and the complexity of food choices. Nonetheless, the model provides valuable cross-cultural insights that serve as a foundation for future research.

(4) Mediation effect test

The mediation test was assessed based on bootstrapping analysis. Tables 5 and 6 reveal the evaluation results of two mediators (INT and ATT) through the presentation of indirect effects.

In Table 5, among all indirect effects, only the paths of STR $\rightarrow$ INT $\rightarrow$ ACTUAL ($\beta = 0.052$, $t = 1.852$), LOI $\rightarrow$ INT $\rightarrow$ ACTUAL ($\beta = -0.054$, $t = 2.185$), and SE $\rightarrow$ INT $\rightarrow$ ACTUAL ($\beta = 0.082$, $t = 3.104$) are significant. It can be said that in Thailand, LOI may act as a barrier in the cognitive process, as Thai consumers who are not interested will not generate a firm buying intention; consequently, they will not purchase vegetarian food. Also, when Thai consumers feel confident in their ability (SE) to make vegetarian choices, their intention to change their behaviour is high; as a result, they will likely translate the intention into real buying action. Besides, the path of STR $\rightarrow$ INT $\rightarrow$ ACTUAL is marginally significant. It may be because structural constraints, such as price and availability, might not be perceived as serious in Thailand, especially in urban areas like Bangkok, so the effect is modest. However, reducing barriers tends to increase intention and actual behaviour. Thus, it is concluded that INT statistically and significantly mediates the influences of STR, LOI, and SE on ACTUAL in Thailand.

Table 4. PLS predicts assessment of manifest variables

	Thailand PLS-SEM RMSE	Q^2_predict	LM RMSE	PLS-SEM-LM	Germany PLS-SEM RMSE	Q^2_predict	LM RMSE	PLS-SEM-LM
AB1	1.150	0.018	1.121	0.029	0.691	0.403	0.573	0.117
AB3	1.039	0.011	1.048	−0.009	0.862	0.119	0.694	0.168
ATT1	0.730	0.582	0.866	−0.136	0.748	0.473	0.693	0.054
ATT2	0.688	0.573	0.700	−0.012	0.746	0.529	0.767	−0.021
ATT3	0.570	0.642	0.684	−0.114	0.728	0.492	0.681	0.047
INT1	0.679	0.592	0.708	−0.029	0.656	0.540	0.686	−0.030
INT2	0.858	0.437	0.941	−0.083	0.766	0.601	0.695	0.071
INT3	0.797	0.444	0.926	−0.129	0.778	0.598	0.713	0.066
Result	medium level of predictive power				low predictive power			

Source(s): Authors' own work

Table 5. Mediation effect test – Thailand

	Std. beta	Std. error	t-value	Confidence intervals	p-value
PC → INT → Actual	0.037	0.039	1.441	[−0.005, 0.096]	0.150
SE → INT → Actual	*0.082*	*0.084*	*3.104*	*[0.039, 0.143]*	**
BE → ATT → INT	0.024	0.022	1.328	[−0.007, 0.064]	0.184
BE → ATT → INT → Actual	0.007	0.006	1.179	[−0.002, 0.020]	0.238
BE → INT → Actual	0.011	0.012	0.481	[−0.038, 0.059]	0.631
ATT → INT → Actual	0.040	0.042	1.313	[−0.007, 0.113]	0.189
LOI → INT → Actual	*−0.054*	*−0.053*	*2.185*	*[−0.107, −0.012]*	**
SN → INT → Actual	0.022	0.020	1.127	[−0.014, 0.060]	0.260
SN → ATT → INT	0.008	0.009	0.648	[−0.008, 0.042]	0.517
SN → ATT → INT → Actual	0.002	0.003	0.609	[−0.002, 0.012]	0.543
SI → ATT → INT → Actual	0.028	0.030	1.220	[−0.004, 0.085]	0.223
SI → INT → Actual	0.064	0.063	1.786	[−0.002, 0.141]	0.774
SI → ATT → INT	0.103	0.106	1.389	[−0.018, 0.268]	0.165
STR → INT → Actual	*0.052*	*0.052*	*1.852*	*[0.002, 0.111]*	*

Note(s): **$p < 0.05$, *$p < 0.1$
Source(s): Authors' own work

Table 6. Mediation effect test – Germany

	Std. beta	Std. error	t-value	Confidence intervals	p-value
PC → INT → Actual	−0.040	0.036	1.124	[−0.116, 0.020]	0.261
SE → INT → Actual	−0.023	0.033	0.704	[−0.089, 0.041]	0.481
BE → ATT → INT	*0.183*	*0.037*	*4.957*	*[0,109, 0,254]*	**
BE → ATT → INT → Actual	*0.134*	*0.029*	*4.636*	*[0,078, 0.191]*	**
BE → INT → Actual	0.028	0.043	0.650	[−0.057, 0.113]	0.516
ATT → INT → Actual	*0.295*	*0.055*	*5.397*	*[0.185, 0.400]*	**
LOI → INT → Actual	*−0.100*	*0.038*	*2.626*	*[−0.179, −0.030]*	**
SN → INT → Actual	0.020	0.037	0.543	[−0.054, 0.091]	0.587
SN → ATT → INT	0.018	0.021	0.867	[−0.021, 0.063]	0.386
SN → ATT → INT → Actual	0.013	0.015	0.859	[−0.015, 0.047]	0.391
SI → ATT → INT → Actual	*0.114*	*0.028*	*4.035*	*[0.064, 0.175]*	**
SI → INT → Actual	*0.262*	*0.060*	*4.371*	*[0.143, 0.381]*	**
SI → ATT → INT	*0.155*	*0.037*	*4.191*	*[0.088, 0.232]*	**
STR → INT → Actual	−0.048	0.036	1.329	[−0.118, 0.020]	0.184

Note(s): **$p < 0.05$, *$p < 0.1$
Source(s): Authors' own work

In Table 6, among all indirect effects, the paths of BE → ATT → INT ($\beta = 0.183$, $t = 4.957$), BE → ATT → INT → ACTUAL ($\beta = 0.134$, $t = 4.636$), ATT → INT → ACTUAL ($\beta = 0.295$, $t = 5.397$), LOI → INT → ACTUAL ($\beta = -0.1$, $t = 2.626$), SI → ATT → INT → ACTUAL ($\beta = 0.114$, $t = 4.035$), SI → INT → ACTUAL ($\beta = 0.262$, $t = 4.371$) and SI → ATT → INT ($\beta = 0.155$, $t = 4.191$) are significant.

In Germany, BE influences behaviour primarily through attitude and intention (BE → ATT → INT → ACTUAL), showing that beliefs must be internalised before prompting action. The ATT → INT → ACTUAL path supports the TPB, emphasising intention as a key mediator. The LOI → INT → ACTUAL path shows that a lack of interest can override even favourable conditions. Additionally, social identity (SI) impacts behaviour through attitude and intention

(SI → ATT → INT → ACTUAL), suggesting that identity-related motivation, such as seeing oneself as health- or eco-conscious, can drive both intention and actual purchasing behaviour in an individualistic society like Germany. Accordingly, it is concluded that ATT statistically and significantly mediates the influence of BE and SI on INT, while INT also significantly mediates the impact of BE, ATT, LOI, and SI on ACTUAL in Germany.

5. Discussion
5.1 Key results
This study examined the factors influencing vegetarian food consumption in Germany and Thailand using the MOA framework. The findings reveal several key cross-cultural similarities and differences in how psychological and situational variables shape consumer behaviour.

In both countries, INT significantly predicted actual ACTUAL, confirming that a stronger intention to purchase vegetarian food increases the likelihood of doing so. However, the predictors of INT varied notably across contexts.

In Germany, ATT and SI significantly influenced INT, with BE indirectly shaping INT via ATT. The mediation analysis showed that both ATT and INT served as important mediators between BE, SI, and ACTUAL, highlighting a value- and identity-driven decision-making process.

Conversely, in Thailand, SE, SI, LOI, and STR significantly predicted INT. In contrast to the German sample, ATT, BE, and SN were not significant predictors of INT. Mediation analysis revealed that INT, but not ATT, mediated the effects of SE, LOI, and STR on ACTUAL, pointing to a more situational and constraint-sensitive pathway.

Additionally, several hypothesised relationships were not supported. SE did not significantly predict INT in Germany, likely due to the high accessibility of vegetarian food reducing the role of perceived ability. Similarly, BE did not directly influence INT in Thailand, suggesting that external constraints or cultural norms may overshadow individual convictions in shaping behaviour.

5.2 Cross-cultural differences in predictors of intention
In Germany, ATT and SI emerged as the strongest predictors of INT. ATT was primarily shaped by BE, which reflects pro-environmental and ethical convictions, suggesting that German consumers are guided by value-based decision-making. This aligns with prior research showing that environmentally conscious consumers in Western cultures often form positive attitudes through internalised beliefs about sustainability and personal responsibility (Ogunbode and Arnold, 2014; Hanss et al., 2016; Legere and Kang, 2020; Smillie et al., 2024). INT appears to be the outcome of deliberate, belief-driven attitude formation. This is consistent with the theoretical assumptions of the TPB and MOA models in individualistic societies (Stokmans, 2005; Ölander and Thøgersen, 1995; Adrita and Mohiuddin, 2020; Ajzen, 1991)

In contrast, the Thai sample displayed a different pattern. INT was significantly influenced by SE, SI, LOI, and STR, while ATT and BE did not significantly affect intention. This suggests that external barriers and perceived ability play a more decisive role in shaping consumer choices. These findings support the notion that in emerging markets, vegetarian food consumption is often constrained by limited availability, social expectations, and practical access issues, as noted in previous research (Adrita and Mohiuddin, 2020). The influence of SE indicates that Thai consumers require a sense of personal confidence and capability to adopt vegetarian behaviour. This is possibly due to a weaker infrastructure for plant-based eating and less normalised dietary alternatives.

The absence of a significant relationship between BE and INT in Thailand may indicate that while pro-environmental BEs are present, they do not directly drive INT unless supported by

enabling conditions. Meanwhile, the non-significant effect of SE in Germany suggests that ability becomes less relevant when plant-based options are widely accessible, affordable, and integrated into mainstream consumption.

5.3 Mediation effects and the role of attitude

In Germany, ATT functioned as a key mediator between both BE and SI on the one hand and INT on the other. Moreover, a sequential mediation path.

(1) BE → ATT → INT → ACTUAL and

(2) SI → ATT → INT → ACTUAL

was supported, underscoring the importance of attitudinal processes in translating personal convictions into behavioural outcomes. This suggests that German consumers are more likely to form deliberate attitudes based on ethical beliefs and pro-environmental identity, which subsequently guide their intention and actual food choices. These findings align with previous studies that emphasise the mediating role of ATT in value-driven behavioural models (Filieri *et al.*, 2021; Hanss *et al.*, 2016). The results also reflect the individualistic and self-determined nature of consumption in Western cultures. Here, actions are often shaped by internally held beliefs and self-concepts (Legault, 2016).

In contrast, in Thailand, ATT did not show a significant mediating effect. While SI remained a significant predictor of INT, the indirect paths through ATT were not supported. These findings suggest that in the Thai context, attitude formation may not be the primary mechanism through which motivations are translated into action. This could be attributed to habitual, situational, or culturally embedded food practices, where decisions are more reactive to social and environmental circumstances than to personal attitudes. It is also plausible that other unmeasured mediators, such as religious norms, family influence, or emotional attachment to food, may play a stronger role than ATT in this setting.

5.4 The role of social norms and self-efficacy

This study found that SN did not significantly influence INT in either the German or Thai sample. This is interesting, since SN is a key element of TPB, often shown to predict INT through perceived social pressure (Ajzen, 1991). One possible reason is that participants were already practising vegetarian eating to some extent, making them more driven by internal motivations, such as BE and SI, rather than by external approval. It is also possible that norms work more indirectly, for example, through ATT or SI. This aligns with research by Legault (2016), who argues that intrinsically motivated behaviours, particularly those aligned with personal values (e.g. sustainability), are less susceptible to normative influence.

Additionally, in contexts where vegetarianism is becoming normalised, such as Germany, the role of SN may diminish as dietary choice shifts from a socially noticeable behaviour to a mainstream lifestyle. In Thailand, vegetarianism is often linked to short-term religious practices (e.g. during the "Gin Je" festival) rather than ongoing social expectations, which may reduce the long-term impact of SN on dietary intention (Thailand Now, 2024).

The role of SE further underscores these cultural differences. In Thailand, SE significantly influenced INT, suggesting that the confidence to overcome social, habitual, or logistical barriers is crucial in shaping behaviour. This aligns with Bandura (1986) concept of SE as a predictor of goal-directed action, especially when the behaviour involves personal effort and environmental obstacles. In contrast, SE was not a significant predictor in Germany, possibly due to the high availability and social acceptance of vegetarian options. In such contexts, the perceived ease of engaging in the behaviour may reduce reliance on one's sense of efficacy. As vegetarian food becomes more accessible and normalised, the decision to consume it may no longer require a strong sense of competence or agency.

5.5 Implications
From a theoretical perspective, this is the first study to apply the MOA framework to examine vegetarian food consumption through a quantitative, cross-cultural survey in Thailand and Germany, using structural equation modelling. Core MOA elements – motivation, SE (former ability), and constraints (former opportunity) – proved relevant in both contexts. Yet, the study reveals notable cultural differences in how these elements influence behaviour. Specifically, in Germany, belief- and attitude-driven mechanisms are central, with ATT mediating the effects of BE and SI on INT and ACTUAL. In Thailand, however, external constraints and SE played a stronger role, and ATT did not function as a significant mediator.

These findings contribute to the theory by showing that MOA elements are applicable across cultures. However, their relative importance and pathways differ, reflecting both shared global values and local sociocultural dynamics. The influence of BE and SI in both countries underscores an emerging global environmental consciousness, while the divergence in mediating mechanisms (e.g. ATT in Germany vs. SE and STR in Thailand) points to the continued relevance of contextual and cultural factors. This suggests that while values may be converging, the way these values are translated into action remains culturally contingent.

From a practical and policy perspective, the findings offer targeted insights for marketers, policymakers, and public health advocates. In Germany, where vegetarian food is widely accessible and socially normalised, marketing strategies should emphasise individual autonomy, ethical identity, and value alignment. This could include packaging that communicates health benefits (e.g. "high in plant protein") and environmental impact (e.g. "saves 1.2 kg CO_2 per serving"), as well as messaging that reinforces ethical self-concepts. Public campaigns may also focus on community identity and social belonging, for example, by engaging environmental influencers or promoting plant-based options as part of modern, values-driven lifestyles. In Thailand, interventions should address situational barriers and confidence-building. This may include increasing access and visibility of vegetarian food, reducing price gaps, and offering practical tools such as cooking classes, local recipe adaptations (e.g. plant-based Pad Thai or Green Curry), or free tastings in supermarkets. Educational messaging that boosts SE, such as demonstrating ease of preparation, nutritional value, or cost-saving benefits, can support consumer transition. Collaboration with chefs and food influencers may help normalise vegetarian food and bridge traditional eating habits with modern dietary trends.

Finally, the study has broader social relevance. Identifying the universal role of SI and BE in motivating vegetarian food choices provides a solid foundation for interventions. Such interventions can help to improve public health, environmental sustainability, and animal welfare. Encouraging plant-based diets not only benefits individuals but also aligns with global goals such as climate action and sustainable development.

6. Conclusion

This pioneering study offers a novel contribution to cross-cultural consumer behaviour research by applying and extending the MOA framework to examine vegetarian food consumption in Thailand and Germany. Through structural equation modelling, the research redefines the "opportunity" element of the MOA model as "constraints". This reflects real-world structural and interpersonal barriers that hinder sustainable food choices, particularly in emerging markets.

The findings confirm that INT significantly predicts ACTUAL in both countries, but the drivers of INT differ across cultural contexts. In Thailand, motivation, SE, and constraints significantly shape INT, whereas in Germany, INT is primarily driven by ATT, BE, and SI. Notably, SE is not significant in Germany, likely due to greater normalisation and accessibility of vegetarian options. The study also reveals that ATT functions as a key mediator in Germany, but not in Thailand, underscoring the cultural variability in how attitudes are formed and translated into action.

In terms of practical implications, the study highlights the need for localised marketing and policy strategies. In Germany, campaigns should emphasise ethical alignment, pro-environmental values, and identity reinforcement. In Thailand, strategies should aim to remove barriers, build consumer confidence, and promote practical access to vegetarian options. Suggested tactics include plant-based versions of culturally familiar meals, clear labelling of health and environmental benefits, and community-oriented initiatives such as cooking events.

7. Limitations and future research

This study has several limitations that offer opportunities for future research. First, the focus on Thailand and Germany limits the generalisability of the findings. Adding more countries, especially with different socio-economic and cultural backgrounds, would improve comparability and give a more complete understanding of vegetarian food consumption.

Second, potential cultural response style biases may have affected survey responses. Research suggests that respondents from Western cultures are more likely to select extreme values on Likert scales, while those from Eastern cultures tend to choose moderate responses (Ford et al., 2023). This may distort cross-cultural comparisons. Future research should consider response standardisation techniques to reduce such bias and improve the reliability of cross-national findings.

Third, the study did not account for other dietary identities, such as veganism or omnivorous diets. Including these subgroups in future research would offer a more nuanced view of motivations and barriers across a wider spectrum of dietary practices.

Fourth, the sample is not nationally representative. Participants may introduce demographic biases. Additionally, the use of non-probability sampling methods (purposive, snowball, and convenience sampling) may affect cross-cultural comparisons and limit generalisability. While this approach is suitable for reaching individuals with an interest or experience in vegetarian food, future research should employ probability-based sampling and strive for more balanced demographic representation to enhance external validity and applicability to broader populations.

Finally, although the study briefly mentions potential influences like personality traits and marketing strategies, these factors were not explored empirically. Future research should investigate how traits such as openness to experience, conscientiousness, or need for cognition influence consumer responses to vegetarian marketing. It should also explore how targeted communication strategies can effectively address specific concerns, such as taste, convenience, or nutrition.

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Working title: The Effect of motivation-opportunity-ability (moa) framework on consumers' buying behaviour of vegetarian food: a cross-cultural analysis between Germany and Thailand

Part I: Eating profile

1. I am_____

a) Vegan

b) Vegetarian

c) Flexitarian [occasional vegetarian]

d) Non-vegetarian

2. I usually eat vegetarian food

a) Every meal

b) At least once a day

c) At least once a week

d) At least once a month

e) Others_____

3. From which channel do you buy vegetarian food most?

a) Offline (please continue to 3.1)

b) Online (please continue to 3.2)

3.1. From which offline channel do you buy vegetarian food most?

a) Supermarket

b) Convenient stores

c) Farmer market

d) Wet market

e) Speciality store

f) Others_____

3.2. From which online channel do you buy vegetarian food most?

a) Supermarket sites

b) E-commerce platforms

c) Vegetarian restaurants sites

d) Food delivery service platform [e.g. Grab food, lieferando, Uber eats etc]

4. How much do you usually spend on buying vegetarian food per month?

a) ≤ 30€/1,500 THB

b) 31–60€/1,501–3,000 THB

c) 61–90€/3,001–4,500 THB

d) 90 €/> 4,500 THB

Part II: MOA model on a 5-Point Likert Scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree
See Table A1 for the items of the MOA model.

Table A1. Items of the MOA-model on a 5-Point Likert Scale (1 = strongly disagreee to 5 = strongly agree)

Construct		Adapted from
Items for motivation		
Attitude	I like the idea of buying vegetarian food	Toch (2020)
	I buy vegetarian food because it would be pleasant	Toch (2020)
	I buy vegetarian food because it is a wise idea	Toch (2020)
Self-identity	I think of myself as an "environmental consumer"	Zhang and Lang (2018)
	I think of myself as someone who is concerned about health issues	Zhang and Lang (2018)
	I think of myself as an "organic consumer"	Zhang and Lang (2018)
	I think buying vegetarian food is desirable	Schenk *et al*. (2018)
	Vegetarian food fits well with who I am	Schenk *et al*. (2018)
Social norm	My friends do (would) approve if I buy (bought) vegetarian food	Schenk *et al*. (2018)
	My family does (would) approve if I buy (bought) vegetarian food	Schenk *et al*. (2018)
	My coworkers do (would) approve if I buy (bought) vegetarian food	Schenk *et al*. (2018)
Belief	I believe that consuming vegetarian food is a good activity to engage in	Tweneboah-Koduah *et al*. (2020)
	I believe that consuming vegetarian food saves land and forest resources	Tweneboah-Koduah *et al*. (2020)
	I believe that consuming vegetarian food has positive impact on health	Tweneboah-Koduah *et al*. (2020)
	I believe that consuming vegetarian food reduces environmental pollution	Schenk *et al*. (2018)
	I believe that consuming vegetarian food reduces the suffering of animals	Schenk *et al*. (2018)
Items for constraints		
[Inter-personal]	Buying vegetarian food is difficult	Bălău (2019)
	I lack time to look for vegetarian food offers	Bălău (2019)
Personal constraints	I do not have someone to advise me on buying vegetarian food	Bălău (2019)
	Buying vegetarian food demands great effort in everyday life	Schenk *et al*. (2018)
[Structural]	I will buy vegetarian food only if the price is comfortable	Adrita and Mohiuddin (2020)
	I will buy vegetarian food only if it is available in my area	Adrita and Mohiuddin (2020)
	I will buy vegetarian food if it needs less perceived efforts	Adrita and Mohiuddin (2020)
	I will buy vegetarian foods whenever I need if it convenient	Adrita and Mohiuddin (2020)
[Intra-personal]	I am not interested in buying vegetarian food	Bălău (2019)
Lack of interest	I do not think of buying vegetarian food	Bălău (2019)
	For me, it is not important to eat vegetarian food	Bălău (2019)
	A vegetarian diet restricts my freedom of choice	Schenk *et al*. (2018)
Items for ability		
Self-efficacy	I can find relevant information about product and processing for buying vegetarian food	Bălău (2019)

(*continued*)

Table A1. Continued

Construct		Adapted from
	I can buy vegetarian food exactly what I want	Bălău (2019)
	I can find a trustworthy channel to buy vegetarian food easily	Bălău (2019)
Items for intention		
	I am willing to buy vegetarian food	Toch (2020)
	I will make an effort to buy vegetarian food	Toch (2020)
	I will prefer to buy vegetarian food	Ahmad and Thyagaraj (2015)
Actual behaviour		
	I _____ buy vegetarian food [Always/frequently/ sometimes/seldom/Never]	Based on interview
	As compared to conventional food, vegetarian food is Inexpensive . . . . .expensive	
	Based on my experience, buying vegetarian food is Inconvenient . . . . convenient	

Source(s): Authors' own work

Part III: Demographic information

5. What is your gender

e) Male

f) Female

g) Prefer not to mention

h) Diverse

6. What is your age?

_____ [enter number]

7. What is your housing situation?

a) Living alone

b) Living together with my family

c) Living together with my partner

d) Living in a shared-flat

8. What is your monthly net income? (personal or household)

a) _____ [enter number, max. 2 digits]

b) Not specified

9. What is your highest school leaving certificate?

a) Secondary School

b) High School Certificate

c) University/College

d) Others

10. What is your employment status?

a) Unemployed

b) Private-sector employed

c) Public-sector employed

d) Government officer

e) Student

f) Self-employed

g) Others

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