

Influence of Cognitive Factors on Consumers' Price Fairness Perceptions, Behavioural Loyalty, and Purchase Intention

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Doctoral Thesis Summary



Tomas Bata University in Zlín
Faculty of Management and Economics

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**Influence of Cognitive Factors on Consumers' Price
Fairness Perceptions, Behavioural Loyalty, and
Purchase Intention**

**Vliv kognitivních faktorů na spotřebitelské vnímání spravedlivě
stanovené ceny, loajální chování a nákupní záměr**

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ABSTRACT

Fair pricing is a standard expectation from consumers' side; they are particularly sensitive toward unacceptable/unfair price increases. Also, perceived price fairness is important to firms because it is connected with several negative as well as positive consequences, including willingness to pay, purchase intentions, complaint behaviour, viva voce, switching propensity, brand attitudes-relationships, along businesses' profit-earning ability. Marketers and managers involved in business-trade should endeavour to understand factors leading to price unfairness perceptions in an attempt to mitigate negative outcomes. Perceiving prices as fair promote purchase intention as well as behavioural loyalty, whereas perceiving prices as unfair reduce purchase intention and behavioural loyalty. Comprehension of the causal cognitive way that moulds perceptions of fairness is vital. It could abet mitigating negative consequences triggered by perceptions of unfairness and enhance the companies competing ability. This doctoral dissertation targeted to fill a void in extant literature by investigating a unique, unexplored but vital topic of interconnections among perceived price fairness, behavioural loyalty, buying intention, and cognitive attribution together with cognitive factors. The main objective of the doctoral thesis is to determine and expand the knowledge of the influence of cognitive factors on consumers' attributional tendencies, perceptions and reactions. Precisely, this dissertation attempts to - i) provide further evidence for the influence of cognitive factors (thinking styles and need for closure) on consumer perceptions and reactions from an attributional perspective; ii) extend the limited consumer research on thinking styles and need for closure; iii) better understand the specific influence cognitive factors have on consumer perceptions and reactions; iv) learn more about the nature of the consumer attribution, perception and reaction making process by predicting differences based on cognitive variables. The quantitative experimental research method was adopted to attain specific objectives of the dissertation. The developed hypotheses based on theoretical background and objectives were examined with 5 experimental studies. The experimental data were analysed with the help of specific statistical software: G*Power and SPSS. Findings revealed price fairness perceptions, behavioural loyalty, purchase intention, and cognitive attribution vary among analytic and holistic thinkers. Likewise, differences pertaining to the variables also persist among high as well as low need for closure individuals. Each of two cognitive facets exhibits significant effect on all the variables. Cognitive attribution with perceived price fairness play the role of serial mediators in the causal chain between cognitive factors and behavioural loyalty as well as purchase intention. Moreover, findings also revealed cultural thinking styles variations induce the price fairness perceptions, behavioural loyalty, purchase intention, and cognitive attribution variances. From theory to practice, the dissertation has its contributions in marketing, behavioural pricing, consumer psychology-behaviour, and sales. Results and findings of this research add significant aspects to the existing thoughts and theories in the context of cognitive processes behind price fairness perception, behavioural loyalty, and

purchase intention. The inferred strategies will be helpful for practitioners in maintaining consumers' positive fairness perception pertaining to price, behavioural loyalty, buying intention as well as gaining competitive edge. Thus, the businesses competing ability as well as commercial return will enhance.

ABSTRAKT

Spravedlivé ceny jsou standardním očekáváním ze strany spotřebitelů; zákazníci jsou obzvláště citliví na zvýšení ceny, kterou považují za nespravedlivou nebo nepřijatelnou. Jaké je vnímání spravedlivě stanovené ceny důležité rovněž pro marketéry a manažery, protože je spojeno s různými negativními a pozitivními výsledky, včetně ochoty cenu zaplatit, dále nákupními záměry, chováním při podávání stížností, chováním ovlivněným word-of-mouth, změnami chování, vztahovými postoji ke značkám a ziskovostí firmy. Marketéři a manažeři zapojení do obchodu, ve snaze zmírnit negativní důsledky, by se měli snažit porozumět faktorům, které vedou k tomu, jak je vnímána cenová nespravedlnost. Vnímání cen jako spravedlivé podporuje nákupní záměry i loajální chování, zatímco vnímání cen jako nespravedlivé, snižuje nákupní záměry a loajální chování spotřebitelů. Pochopení příčin kognitivního myšlení, který formuje vnímání spravedlnosti, je důležité; mohlo by přispět ke zmírnění negativních důsledků vyvolaných vnímáním nespravedlnosti a posílit konkurenceschopnost společností. Tato disertační práce si kladla za cíl, zaplnit prázdnotu v existující literatuře zkoumáním jedinečného, neprobádaného, ale zásadního tématu, propojení mezi vnímáním spravedlivé ceny, behaviorální loajalitou, nákupním záměrem a kognitivní atribucí, spolu s kognitivními faktory. Hlavním cílem disertační práce je determinovat a rozšířit znalosti o vlivu kognitivních faktorů na atribuční tendence, percepce a reakce spotřebitelů. Právě proto se tato disertační práce pokouší - i) poskytnout další důkazy o vlivu kognitivních faktorů (styly myšlení a potřeba dokončení) na vnímání a reakce spotřebitelů z perspektivy atribuce; ii) rozšířit limity výzkumu spotřebitelů o stylech myšlení a potřebě dokončení; iii) lépe porozumět specifickému vlivu kognitivních faktorů na vnímání a reakce spotřebitelů; iv) dozvědět se více o povaze spotřebitelské atribuce, vnímání a procesu vytváření reakcí předpovídáním rozdílů na základě kognitivních proměnných. K dosažení konkrétních cílů disertační práce byla přijata metoda kvantitativního experimentálního výzkumu. Hypotézy vzešly z teoretických základů a stanovených cílů, a byly zkoumány pomocí 5 experimentálních studií. Experimentální data byla analyzována pomocí specifického statistického softwaru: G*Power a SPSS. Zjištění odhalila, že vnímání cenové spravedlivosti, loajální chování, nákupní záměry a kognitivní atribuce se mezi analytickými a holistickými mysliteli liší. Stejně tak rozdíly týkající se proměnných přetrvávají mezi vysokou i nízkou potřebou uzavření jedinců. Stejně tak rozdíly týkající se proměnných přetrvávají mezi vysokou i nízkou potřebou uzavřených jedinců. Každý ze dvou kognitivních aspektů vykazuje významný vliv na všechny proměnné. Kognitivní atribuce s vnímáním cenové spravedlnosti, hrají roli řadových mediátorů, v kauzálním řetězci mezi kognitivními faktory a behaviorální loajalitou, a rovněž záměrem nákupu. Kromě toho zjištění také odhalila, že varianty kulturních stylů myšlení vyvolávají rozdíly ve vnímání cenové spravedlnosti, loajálního chování, záměru nákupu a kognitivní atribuce. Od teorie k praxi má disertační práce své přínosy v oblasti marketingu, behaviorálních cen, spotřebitelské psychologie-chování a prodeje.

Teoretické výsledky disertační práce mají rovněž přínos do praxe v oblasti marketingu, behaviorálních cen, spotřebitelské psychologie-chování a prodeje. Výsledky a zjištění tohoto výzkumu přidávají významné aspekty k existujícím myšlenkám a teoriím v kontextu kognitivních procesů, které stojí za vnímáním spravedlivé ceny, behaviorální loajalitou a nákupními záměry. Strategie odvozené od těchto výsledků, budou pro praktiky nápomocné při udržování spotřebitelského pozitivního vnímání spravedlnosti, pokud jde o cenu, loajálního chování, nákupních záměrů, a také pro získání konkurenční výhody. Zvýší se tak konkurenceschopnost podniků a zlepšení obchodování.

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1. INTRODUCTION

Businesses make massive investments in the direction of creating positive links in connection with customers. Increased price circumstances, generally considered as either or both negative and unfavourable, causing unfairness perceptions could enervate those business actions. Price fairness perceptions positively shape purchaser's buying intention, loyalty, satisfaction as well as attitude. Then again, perceived price unfairness drives negative reactions for instance decreased buying intention, changing firm, negative verbal communication, complaint, service refusal/sending back good (Santos et al., 2020; Xia et al., 2004). Henceforth, lessening customers' unfairness perceptions is imperative, considering the perils embroiled. Accordingly, grasping the states that underlie customers' fairness or unfairness perceptions pertaining to a price is of utilitarian worth to marketing and managerial personnel. Customers have to face a succession of cognitive phases to decide fairness pertaining to prices. Various incidents from old to recent can be put forward to illustrate the significance of fairness perceptions pertaining to price. For instance, "Netflix lost 800,000 subscribers in three months when it passed on cost increases to customers who perceived the firm's action as unfair" (Lu et al., 2020, p. 231). In today's highly competitive business world, it has become essential for any organisation to create consumers' loyalty, which in turn is useful for generating business profits. Contented consumers are the primary valuables for every single kind of company. The manner consumers respond anent prices, perceived price fairness represents an essential element of it. Undeniably, adverse reactions ensue once consumers sense that they are victims of unfair treatment and those price unfairness perceptions can lead to significant unfavourable effects on consumer satisfaction and consequent consumer behaviour.

In this rapidly expanding, strongly competitive and changeable food facility sector of the present era, consumers have wide quantity of restaurants possibilities to pick from and thus to gain competitive advantage in addition to be successful it is significantly imperative for restaurateurs to know the influences that drives the decision making process of selection of restaurants among consumers. In general, it has been observed restaurant consumers with different ethnic, cultural and economic backgrounds get influenced with any price change (increase). In the foodservice industry, perceived price is an important factor that determine consumer satisfaction level. For maintaining consumer satisfaction and loyalty, perceived price fairness is considered as a necessary factor in service industry. Restaurant was chosen for this research as it provides a relatively even good/service mix (Martin et al., 2009). Nowadays, car rental services are playing a key part in the area of transportation as they bring prompt accessibilities, customers operated services, services led by demand, pricing besides adaptability (Shah and Shah, 2021). For work as well as personal uses, customers all over the world regardless of profession, culture, race, gender, and age utilise car rental facilities. Alas, since December 2019 globally

customers are encountering increased prices pertaining to car rental services. In the rapidly developing, ever-changing, and severely competitive service sector of car rentals, buyers have extensive substitute choices and hence easy to change suppliers who give services. In comparison to before the “coronavirus disease 2019” pandemic situation, travellers have become more sensitive to price. They are more prone to trading off advantages that upper and mid-level hotels offer for basic ‘pay for what you need’ facilities. Budget hotels are benefiting from the condition by tendering a ‘value-for-money’ service and enticing price-sensitive clients. If guests of budget hotels are contented with the received fair prices, then they become loyal. Visitors’ fairness perceptions pertaining to prices are positively and directly correlated with their buying intentions, positive recommendations, and good “word of mouth” in hotel businesses (el Haddad et al., 2015). According to “Global Business Travel Association” and “Global Business Travel Forecast” predictions made in the year 2019 indicated that the following 2 years are expected to experience rises in prices of worldwide travel across hotels, land, and air. “American Express Global Business Travel” predicted that in the year 2023 rates of hotels would increase comprehensively. Price acts as an influential element in budget hotel clients’ booking decision-making procedure (el Haddad et al., 2015). As upscale hotel guests generally don’t possess the obtained prices evident worth judgments, thereby budget hotel as a service was chosen for this research. A budget hotel exemplifies an interesting selection since its visitors search for more fairly priced lodging, in addition to being more cost-cognizant. Hence, currently it turns out to be more relevant for restaurateurs, managers of companies that provide car rental facilities and managers of budget hotels to comprehend customers’ reactions towards increased prices circumstances and means to retain positive perceptions pertaining to prices, buying and rebuying intentions in order to thrive in the marketplace. The aforementioned facets contributed towards the choice of restaurant, car rental, and budget hotel as services for the thesis.

1.1 Research problem

An increase in price occurrence commonly induces multiple questions in customer’s mind, for instance, willingness to purchase, behavioural loyalty, price fairness, the responsible factors kind (uncontrollable and/or controllable, internal, external), and responsible factors. This thesis proposes that customers’ answers to these questions may vary subject to their cognitive need for closure and thinking styles. Despite there are previous investigations that demonstrated the relationships between price fairness perceptions, behavioural loyalty, purchase intention, cognitive attribution, need for closure, and thinking styles separately (Choi et al., 2007; Chung and Petrick, 2013; Federico et al., 2016; Kim and Hwang, 2017; Konuk, 2018; Pietrzak et al., 2014; Vaidyanathan and Aggarwal, 2003; Yoon, 2013). Nevertheless, a void in research pertaining to the existing literary works is the evidence of interrelationships between all the aforementioned variables jointly. As per considerable search of literary works, no former investigations have studied the

impact of styles of thinking and need for closure on behavioural loyalty and purchase intention influenced by cognitive attribution as well as, successively price fairness perceptions. Aiming to bridge this void, present doctoral dissertation endeavours to investigate how varying thinking styles (analytic vs. holistic) and need for closure (high vs. low) will shape customers' price fairness perceptions in addition to following behavioural loyalty and purchase intention in the price rise occurrence. Giving attention to the aforesaid subject is imperative as on top of bringing to light an original promising research direction, it can as well support businesses in forming tactics to handle perceptions of unfairness, lowered behavioural loyalty, reduced buying intention in addition to achieve competitive edge.

1.2 Research questions

In line with the identified gap in literature and research problem, this doctoral thesis attempts to answer the main research question (RQ).

RQ: Whether and how cognitive factors influence consumers' attributional tendencies, perceptions, and reactions?

The main research question can be divided into two sub-research questions (SRQ):

SRQ1: Whether and how styles of thinking (holistic and analytic thinking) influence perceived price fairness, behavioural loyalty, and purchase intention?

SRQ2: Whether and how the need for closure (high and low need for closure) influence perceived price fairness, behavioural loyalty, and purchase intention?

The main objective along sub-objectives of the doctoral thesis has been developed for finding out the answers of formulated research questions. For details see section 1.3.

1.3 Objectives

Corresponding to the main research question, the main objective (OBJ) of this doctoral thesis is to determine and expand the knowledge of the influence of cognitive factors on consumers' attributional tendencies, perceptions and reactions. Corresponding to sub-research questions: SRQ1 and SRQ2, sub-objectives: SOBJ1 and SOBJ 2, were developed respectively.

SOBJ1: To investigate the role of styles of thinking (holistic and analytic thinking) in influencing perceived price fairness, behavioural loyalty, and purchase intention.

SOBJ 2: To investigate the role of need for closure (low and high need for closure) in influencing perceived price fairness, behavioural loyalty, and purchase intention.

2. LITERATURE REVIEW

2.1 Attributional approach - price fairness perception

“Perceived price fairness has been the key variable employed in the pricing literature to understand the impact of price increases on consumers (Koschate-Fischer et al., 2016). As price increase is often observed as negative and/or surprising event, consumers are probable to infer causal reasoning behind price increase by firm (Koschate-Fischer et al., 2016). When confronted with undesirable and/or negative events for instance price increases, customers are inclined to involve in cognitive attribution process. It affects price fairness. Subject to consumers’ understanding related to dimensions of cognitive attribution, outcomes evaluation beget negative or positive emotions, in turn which affects consumers’ behavioural intentions. The price increase seen as most fair is one whose cause is located external to the seller and is beyond the seller’s volitional control (Vaidyanathan and Aggarwal, 2003)” (Shaw et al., 2022, p. 213).

2.2 Thinking styles – attribution tendency

“The difference between holistic and analytic styles of thinking illustrates the variances in individuals’ ways of perceiving, categorising and reasoning their world (Shavitt and Barnes, 2019). Analytic and holistic thinkers use diverse cognitive processes to foresee and explain reasons behind behaviours/events. Styles of thinking (analytic vs. holistic) are prone to dictate level of situational and/or contextual factors consideration in drawing attributions. Thinking styles affect cognitive process of making causal attributions, i.e. cognitive attribution to a behaviour/event (Shaw, 2020). Compared to analytic thinkers, holistic thinkers deploy more situational and/or contextual information while processing cognitive attribution (de Oliveira and Nisbett, 2017; Monga and John, 2008). Holistic thinkers tend to deploy external factors including internal factors, while individuals thinking analytically depend exclusively on the latter. (Monga and John, 2008). The attributions enable consumers to prophesy and manage their environments along with determining consumers’ satisfaction, perceptions, emotions, behavioural consequences and brand evaluations (Monga and John, 2008; Song et al., 2015). While processing cognitive attribution, inclusion of internal factors lays blame on the company and therefore consumers thinking analytically are more likely to revise their brand evaluations in a negative manner (Monga and John, 2008). Conversely, inclusion of internal factors leads to a reverse situation in case consumers thinking holistically” (Shaw et al., 2022, p. 214).

2.3 Cultural variances in thinking styles

A substantial amount of literary works assent with the outlook that Western cultures (for instance Europe, U.S.) and Eastern cultures (for instance Japan, India, Korea, as well as China) espouse analytic and holistic thinking style respectively. Easterners display better field dependence when compared to westerners. While deriving reasons

pertaining to causal relationships, easterners undertake the presence of intricate causalities as well as place greater emphasis on the relationships and interactions of actors with their surrounding conditions. While on the other hand, Westerns mostly contemplate dispositions of actors that are internal in nature (Choi et al., 2007). Subsequently, when time comes to make final attribution, westerners consider less information amount relative to easterners and more promptly commit fundamental attribution error (Choi et al., 2007). Preceding literary works have given proof of variations in Western and Eastern cultures drive by thinking styles relating to tendency of customers to be dependent on context-based information in shaping perceptions. In relation to participants from U.S. and Japan, de Oliveira and Nisbett (2017) indicated cultural variation through highlighting the distinction that ascends subject to distinction in perspective of focus. That is, concentration on focal object as opposed to interconnections of object with its field. On the subject of extensions of parent brands, westerners having analytic thinking style display worse fit perceptions relative to Easterners who have holistic thinking style (Monga and John, 2010). Lalwani and Shavitt (2013) exhibited that cultural variations in styles of thinking encompasses perceived links amid attributes of products that are fundamental in nature, for instance quality and price.

2.4 Attribution, thinking styles, purchase intention, and price fairness perception

“Causal attribution pertaining to negative events has significant influence on purchase intention of consumers. Consumers’ blame attribution to brand sways purchase intention negatively (M. Yu et al., 2018). In case of a negative event, consumers who attribute blame on brand are less prone in buying the brand’s product (Laufer and Coombs, 2006). Styles of thinking are important influencers of consumer behaviour in a range of diverse areas. Thinking styles have an effect on the attributional direction, in that way purchase intention. Analytic thinkers are more inclined to ascribe reasons of negative consumer experience to brand, ensuing in lower brand purchase intention (Yoon, 2013). In contrast, holistic thinkers are more inclined to ascribe reasons of negative consumer experience to retailer, ensuing in lower retailer purchase intention. Price attributes have been considered high impact variables that influence consumer purchase intentions in a growing competitive marketing environment (Sakkthivel and Rajev, 2012). Price fairness perceptions significantly determine buyers’ buying intention (Lee et al., 2011). Several prior studies have provided evidence on significant positive effect of price fairness toward purchase intention in different sectors such as automobile, food, and airlines. Perceived price fairness can increase purchase intention of consumers even in case of high perceived prices” (Shaw et al., 2022, p. 214). When rise in prices occurs, perceived price fairness provides more instantaneous reaction in comparison with downstream variable e.g. purchase intention (Koschate-Fischer et al., 2016).

2.5 Attribution, thinking styles, behavioural loyalty, and price fairness perception

Following a negative happening, buyers' attribution of reasoning determines their readiness of rebuying intentions the particular thing (Chung and Petrick, 2013). Loyalty and customers' attribution of blame to brand are related in negative manner (Vidal, 2012). Loyalty and dimensions of cognitive attribution are associated. Stability (being one of the attributional facets) affects loyalty (Nikbin et al., 2016). Likewise, lessened controllability attributions result in greater rebuying intentions ensuing failures of services. Also, responsibility of service/product providers concerning a failure and loyalty are negatively connected (Vidal, 2012). Consumers' "loyalty decrease when they attribute the cause of a service failure to stable and controllable factors" (Nikbin et al., 2016, p. 5). Subsequent negative experiences, customers' interpretation of causes and loyalty are interlinked, thereby level of loyalty and causal attribution differ depending on each other. Loyalty and cognitive attribution move in same direction. External, unstable as well as global attribution indicate greater loyalty level and vice-versa. Attribution formation variables and attribution outcomes (such as, loyalty) are connected in complex manner beyond direct affect involving mediators. After encountering an incident that is negative in nature, thinking styles have an effect on customers' behavioural loyalty as well as causal attribution. It have an effect on the attributional direction, then in that way behavioural loyalty. Repurchase intentions differ between holistic and analytic consumers (Tektaş et al., 2017). Loyalty being part of binding moral values and analytic thinking are negatively correlated (Pennycook et al., 2014). Analytic thinkers exhibit lower loyalty in compared to holistic thinkers.

In loyalty formation, prices have high significance (Liao et al., 2020). Loyal consumers even incline to pay high asking prices. Even when there are price increases, then also price fairness boosts loyalty (Martin et al., 2009). Fairness along with price play vital part in shaping loyal consumer base. Behavioural loyalty composes repeat buying intentions along recommendations of consumers. Price fairness perceptions significantly determine consumers' behavioural loyalty (Chung, 2010). Various preceding research papers have given proof regarding connectivity between loyalty and price fairness being positive and significant in nature across varying fields for instance tourism, online gaming, airline, and telecom (Chung and Petrick, 2013; Liao et al., 2020). Fair prices augment loyalty. Buyers' fairness perceptions associated with price sway their recommending (el Haddad et al., 2015) and rebuying intentions. Buyers deeming price increases' motives being fair display greater rebuying intentions than those deeming prices being unfair. Buyers' feelings of unfairness can engender dearth of loyalty.

2.6 Attribution, need for closure, fairness, loyalty, and purchase intention

Need for closure is substantial influencers of various consumer behaviour constituents (Vermeir, 2003). An extensive range of consumers' preferences along behavior can be predicted by individual variances pertaining to need for closure (Vermeir, 2003). Need for closure (high vs low) affect consumer's attributional propensity, fairness judgments-perceptions, loyalty, and purchase intention. Fundamental attribution error refers to a propensity that comprises overestimation of dispositional influences and underestimation of situational elements simultaneously pertaining to causal explanations regarding an occurrence or a behaviour. On the subject of causal attributions, high need for closure individuals more promptly commit the aforementioned error relative to low need for closure individuals (Kruglanski and Webster, 1996). The aforesaid attributional propensity sways behavioural outcomes, evaluations, as well as perceptions of customers. Need for closure sway fairness judgements-perceptions of consumers (Mattila and Choi, 2012). Low need for closure persons exhibited higher perceptions of fairness than high need for closure persons (Mattila and Choi, 2012; Pietrzak et al., 2014). Also, need for closure holds negative indirect connection with fairness perceptions of consumers (Pietrzak et al., 2014). Need for closure of consumers affects their loyalty (Rempala et al., 2016). Loyalty being part of moral binding foundations and need for closure are associated with each other (Federico et al., 2016). Consumers' need for closure shape their buying propensity and purchase intention (Kim and Hwang, 2017). People with different need for closure (high vs low) differ in their purchase choice behavior (Vermeir et al., 2002).

2.7 Definitions of parameters

<u>Analytic thinking</u>	“involves a detachment of the object from its context, a tendency to focus on attributes of the object to assign it to categories, and a preference for using rules about the categories to explain and predict the object's behavior”
<u>Behavioral Loyalty</u>	“the frequency of repeat or relative volume of same-brand purchase”
<u>Cognitive Attribution:</u>	“a cognitive process that infers the cause(s) of an event or others' behavior, which in turn leads to behavioral intentions or consequences”
<u>High need for closure:</u>	“desire quick, firm answers to questions or problems”
<u>Holistic thinking:</u>	“involving an orientation to the context or field as a whole, including attention to relationships between a focal object and the field, and a preference for

<u>Low need for closure:</u>	explaining and predicting events on the basis of such relationships” “when a person finds processing information as intrinsically rewarding, he or she tends to evade closure”
<u>Need for closure:</u>	“need to have any answer on a given topic, as opposed to further ambiguity”
<u>Perceived price fairness:</u>	“the consumer’s assessment of whether a price is reasonable, acceptable, or justifiable ”
<u>Purchase intention:</u>	“the tendency for the consumer to take actual purchase action”
<u>Thinking style:</u>	“a person's preferences for thinking about given information and making decisions out of it”

2.8 Abbreviations

Confidence interval: CI; Dependent variable: DV; Indirect effect: IE; Independent variable: IV; Lower bound: LB; Mean: M; Difference in means: MD; Sample: n; Main objective: OBJ; Statistically significant: $p < .05$; The attained level of significance: p-value; Main research question: RQ; Standard deviation: SD; Standard error: SE; Sub-objective: SOBJ; Sub-research questions: SRQ; Upper bound: UB.

2.9 Hypotheses

Based on literature review and to achieve objectives of the doctoral thesis, following hypotheses were developed.

H1: Thinking styles (analytic vs. holistic) will influence perceived price fairness in a price increase context. Specifically, holistic thinkers will perceive a price increase as fairer than analytic thinkers.

H2: Cognition attribution will mediate the influence of thinking styles on perceived price fairness.

H3: The influence of thinking styles on purchase intention will be serially mediated via cognitive attribution and perceived price fairness.

H4: The influence of thinking styles on behavioural loyalty will be serially mediated via cognitive attribution and perceived price fairness.

H5: Easterners will perceive a price increase as fairer than Westerners.

H6: Cognition attribution will mediate the influence of culture on perceived price fairness.

H7: Cultural differences in cognitive attribution can be attributed to styles of thinking.

H8: Cultural differences in perceived price fairness can be attributed to styles of thinking.

H9: The influence of culture on purchase intention will be serially mediated via cognitive attribution and perceived price fairness.

H10: The influence of culture on behavioural loyalty will be serially mediated via cognitive attribution and perceived price fairness.

H11: Cultural differences in purchase intention can be attributed to styles of thinking.

H12: Cultural differences in behavioural loyalty can be attributed to styles of thinking.

H13: Need for closure (high vs. low) will influence perceived price fairness in a price increase context. Specifically, low need for closure individuals will perceive a price increase as fairer than high need for closure individuals.

H14: Cognition attribution will mediate the influence of need for closure on perceived price fairness.

H15: The influence of need for closure on purchase intention will be serially mediated via cognitive attribution and perceived price fairness.

H16: The influence of need for closure on behavioural loyalty will be serially mediated via cognitive attribution and perceived price fairness.

Five experimental studies were conducted for testing the formulated hypotheses towards fulfilment of the thesis objectives.

2.10 Overview of studies

Study 1 demonstrates the link between price fairness perceptions, cognitive thinking styles, and cognitive attribution in price increase situation. Study 2 verifies reliability and generalisability of study 1 results. It extends causal relationships of study 1 by including more managerially pertinent consequence variables, i.e. behavioural loyalty and purchase intention. Aforementioned studies demonstrate the cognitive styles of thinking effect in individual context. Study 3 and study 4 present the cognitive thinking styles impact in cultural context. Study 3 shows the link between culture, price fairness perceptions, and cognitive attribution apropos price increase context. It also tests attribution of cultural variances in cognitive attribution and price fairness perceptions on thinking styles. Study 4 verifies reliability and generalisability of study 3 results. It extends causal relationships of study 3 by including behavioural loyalty and purchase intention. Study 5 demonstrates the link between cognitive need for closure, cognitive attribution, buying intention, behavioural loyalty, and price fairness perceptions pertaining to price rise circumstance. It presents the effect of cognitive need for closure in individual context.

The following schematic gives brief information on the interconnectivity between five experimental studies, objectives, and hypotheses under the umbrella of OBJ.

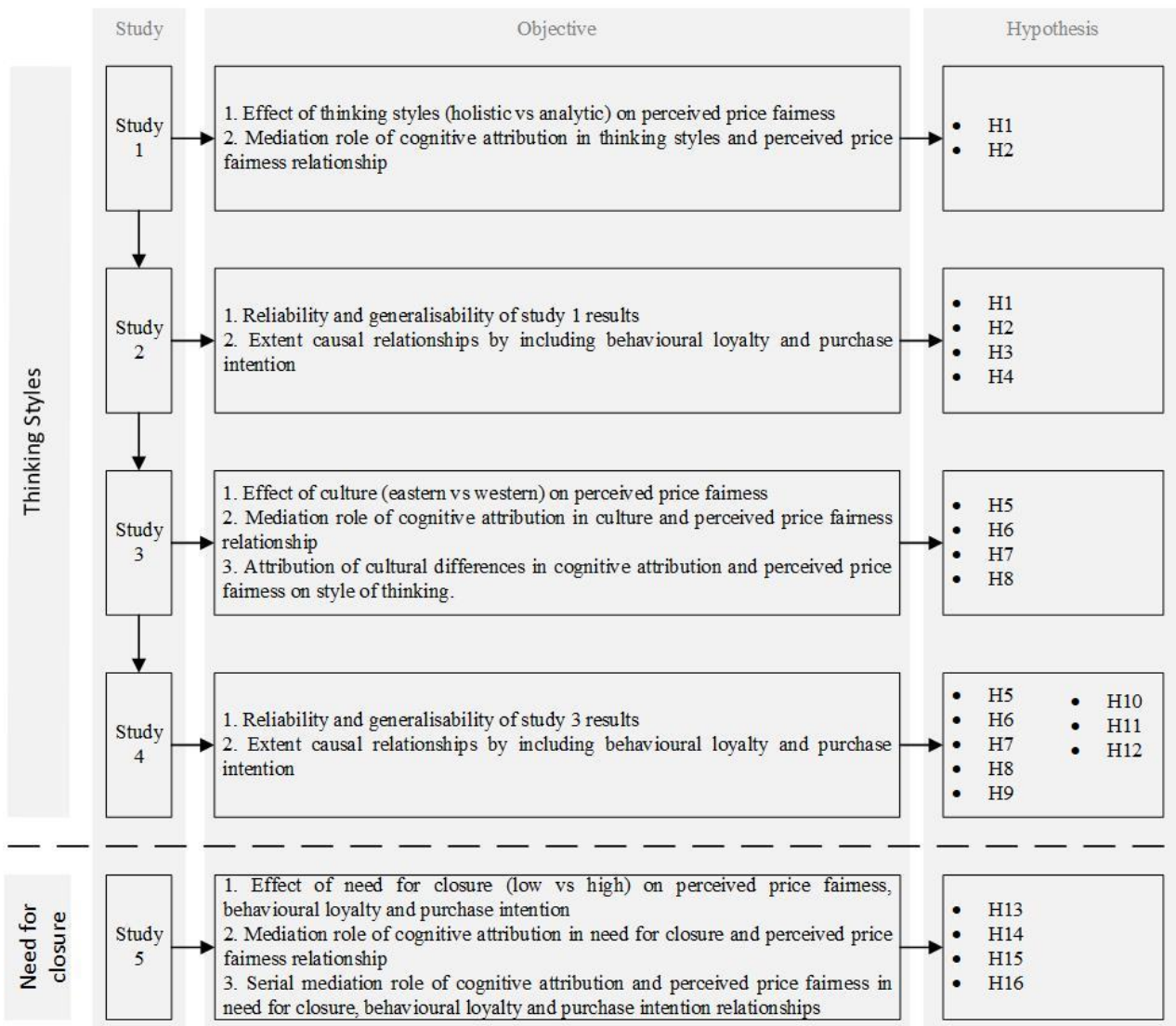


Fig. 2.1: Interconnectivity between studies, objectives, and hypotheses

Source: Illustrated by the thesis writer

2.11 Conceptual framework

Fig 2.2. illustrates a conceptual framework that was developed in concordant with the formed objectives and formulated hypotheses.

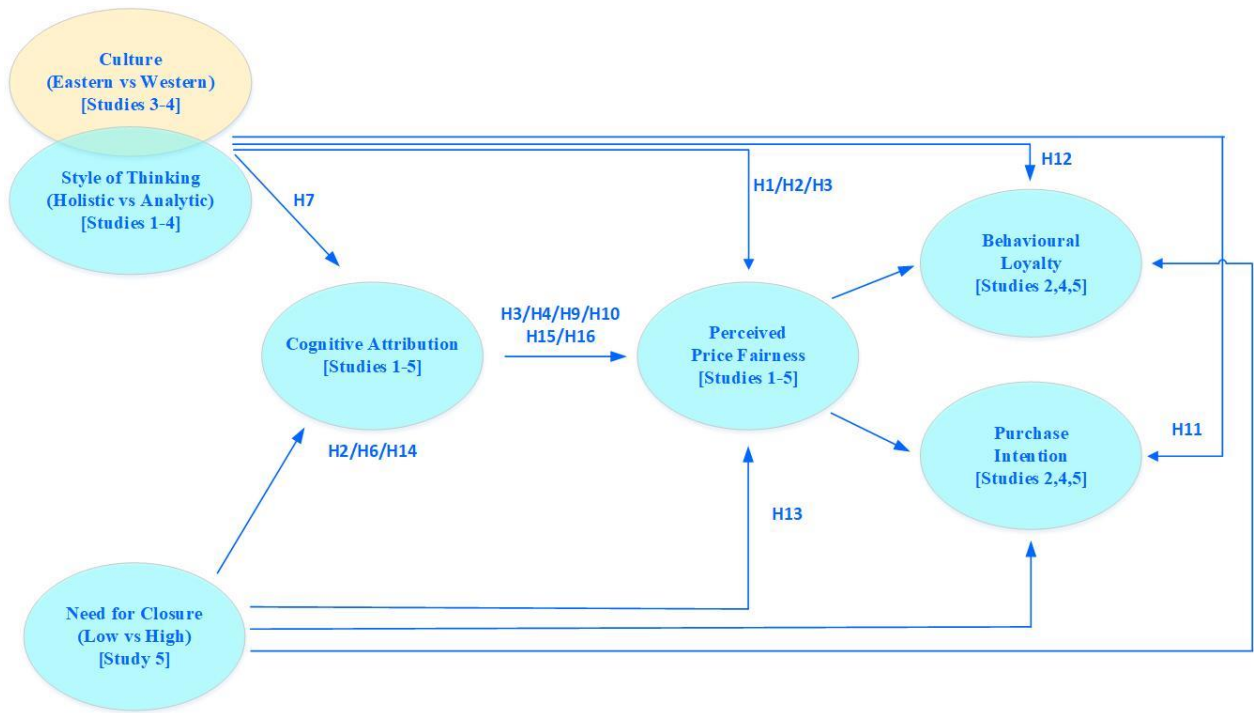


Fig. 2.2: Conceptual framework
Source: Illustrated by the thesis writer

3. METHODOLOGY

3.1 Research design, sample and tools

	Study 1	Study 2	Study 3	Study 4	Study 5
Method	Quantitative experimental research	Quantitative experimental research	Quantitative experimental research	Quantitative experimental research	Quantitative experimental research
Sample technique	Convenience sampling	Simple random sampling	Convenience sampling	Convenience sampling	Simple random sampling
Sample objects	Student sample (India)	Non student sample (India)	Student sample (India & Czech Republic)	Non student sample (India & Czech Republic)	Non student (India)
Context	Restaurant	Car rental	Restaurant	Budget hotel	Car rental
Experiment	Offline	Online	Offline	Offline and online	Online
Manipulation check	Yes; Pretest1 (n=47)	No	No	No	Yes; Pretest2 (n=32)
Sample size	Necessary sample size=159 ^a Total sample size=276	Necessary sample size=159 ^a Total sample size=171	Necessary sample size=128 ^b Total sample size=130	Necessary sample size=128 ^b Total sample size=153	Necessary sample size=159 ^a Total sample size=162
Data analysis tool	- SPSS version 23 with mediation tool of Hayes - GPower 3.1	- SPSS version 23 with mediation tool of Hayes - GPower 3.1	- SPSS version 23 with mediation tool of Hayes - GPower 3.1	- SPSS version 23 with mediation tool of Hayes - GPower 3.1	- SPSS version 23 with mediation tool of Hayes - GPower 3.1
Data analysis	-Power analysis -Cronbach alpha -One way anova -Tukey post hoc test -PROCESS Model 4	-Power analysis -Cronbach alpha -One way anova -Tukey post hoc test -PROCESS Model 4 -PROCESS Model 6	-Power analysis -Cronbach alpha -Independent sample t-test -PROCESS Model 4 -Median split	-Power analysis -Cronbach alpha -Independent sample t-test -PROCESS Model 4 -PROCESS Model 6 -Median split	-Power analysis -Cronbach alpha -One way anova -Tukey post hoc test -PROCESS Model 4 -PROCESS Model 6

- a. $Power(1-\beta) = 80\%$, $\alpha = 0.05$, Effect size=medium, No of groups= 3
- b. $Power(1-\beta) = 80\%$, $\alpha = 0.05$, Effect size=medium, Tail(s)= two

Fig. 3.1: Research design, sample and tools
Source: Illustrated by the thesis writer

The above schematic gives brief information on research design and sample with tools used in the five experimental studies. In all the experimental studies, quantitative research methods were adopted. Experimental study 1, study 3, and study 4 used convenience sampling, whereas that of study 2 and study 5 used simple random sampling technique. In case of study 1 and study 3 offline experiments were conducted in the context of restaurants employing Indian student samples, in addition to Czech student sample particularly for study 3. Whereas, in case of study 2 and study 5 online experiments were conducted in the context of car rental employing Indian non student sample. Moreover, in case of study 4 both online and offline experiments were conducted in the context of budget hotel employing Indian and Czech non student sample. Only for experimental study 1 and study 5 manipulation checks were done by performing pretests with sample size 47 and 32 respectively. Sample sizes of five experimental studies were 276, 171, 130, 153, and 162 respectively. All of them are more than the necessary sample size as calculated by power analysis method. Statistical software such as SPSS with the mediation tool of Hayes and G*Power were used for data analysis. In case of study 1, study 2 and study 5 experimental data were analysed using power analysis, Cronbach alpha, one-way anova, Tukey post hoc test, Process model 4 in addition to Process model 6 in case of study 2 and 5. Moreover, in case of study 3 and study 4, experimental data were analysed using power analysis, Cronbach alpha, independent sample t-test, median split, Process model 4 in addition to Process model 6 particularly in case of study 4.

3.2 Styles of thinking manipulation

“For manipulating styles of thinking a grayscale picture was displayed to participants wherein, 11 smaller objects images were embedded (Lalwani and Shavitt, 2013; Monga and John, 2008). Participants assigned to analytic thinking group were instructed to find maximum individual objects among the 11 embedded smaller objects from the displayed picture. Participants assigned to holistic thinking group were instructed to concentrate on the same grayscale picture’s background and write their observations about the picture in few lines. The information about the presence of 11 embedded smaller objects in the picture was not provided to this group of participants. Additionally, the picture’s objects were ably embedded, so that participants in this thinking condition would not be able to find them spontaneously” (Shaw et al., 2022, p. 215).

3.3 Need for closure manipulation

Need for closure was manipulated via time pressure by the way of directives given to the participants. Participants required 12 minutes on average to finish the experiment. Participants assigned to the high need for closure group were informed: “You have 12 minutes to finish the measures. Most individuals require 15 minutes to do it. If you work quickly, you can complete in 12 minutes. We will remind you of the time each 3 minutes”. Participants assigned to low need for closure group were

informed: “You have 12 minutes to finish the measures. Most individuals require 9 minutes to do it. Take your time. We will inform you when time is finished”. Participants in each group were provided 12 minutes. Nonetheless, participants in the low need for closure group were incited to think that they had adequate time, while participants in the high need for closure group were incited to think that they required speeding up to complete the job (Chiu et al., 2000).

3.4 Procedures and measures

3.4.1 Pretest1 and pretest2

Pretest1 and pretest 2 with n=47 and n=32 were performed to verify the thinking styles and need for closure manipulation method effectiveness respectively. In pretest 1 and pretest 2, after completing the manipulation task then the participants responded to a “twelve-item thinking style measurement” having seven-point Likert scale (Song et al., 2015, p. 13) and fifteen-item need for closure measurement having six-point Likert scale respectively. Example of an item used in thinking styles measurement: “everything in the universe is somehow related to each other” (Choi et al., 2007, p. 694). Example of an item used in need for closure measurement: “I don’t like situations that are uncertain.” (Roets and van Hiel, 2011, p. 92).

3.4.2 Study 1

The experimental study 1 included three segments – i) Styles of thinking were manipulated by the procedure mentioned in the section “Styles of thinking manipulation”. ii) Participants were asked to read following hypothetical scenario of price increase event in context of a restaurant: “Imagine you want to visit a restaurant for dining. You get to the website of the restaurant, which you commonly use. During reservation process, you discover that the price of the food that you ordered last time has increased”. iii) Participants completed perceived price fairness, cognitive attribution measurement scales including specific demographic information. All utilized measurement scales have their sources in literature, however, they were revised (when required) to fit this research. Perceived price fairness measurement contained six items (Chung and Petrick, 2013) “on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree)” (Chung and Petrick, 2015, p. 912). Example of an item used in its measurement: –“the price increase is fair” (Chung and Petrick, 2015, p. 916; Chung and Petrick, 2013, p. 175). Cognitive attribution measurement contained five items having “bipolar rating (semantic differential) scale from 1 to 7” (Chung and Petrick, 2013, p. 175). One of its items was – “the cause(s) of price” increase “is something about the restaurant/other situations” (Chung and Petrick, 2013, p. 175).

3.4.3 Study 2

Similar to study 1, this experimental study also consisted of three parts – i) Styles of thinking manipulation procedure was identical to Study 1. ii) Participants were asked to read following hypothetical scenario of price increase event in context of a car rental: “Imagine you need to rent a car for a travel purpose. You get to the website for rental car, which you commonly use. During the procedure of car booking, you discover that the price has increased compared to last time though pick-up station, destination, car category and car configuration are same as your last booking”. iii) Participants completed perceived price fairness, cognitive attribution, purchase intention, and behavioural loyalty measurement scales including specific demographic information. Except purchase intention, and behavioural loyalty all measurement scales used in this study are same as study 1 with modification according to the context of car rental. Purchase intention measurement contained three items, “on a seven-point rating scale” (Koschate-Fischer et al., 2016, p. 624). Example of an item used in measurement of purchase intention – “The likelihood of me purchasing this service of car rental is...” (Koschate-Fischer et al., 2016, p. 623). Behavioural loyalty measurement contained five items “on a Likert-type scale ranging from 1 (very unlikely) to 5 (very likely)” (Chung and Petrick, 2013, p. 175). One of its items was – “I will say positive things about the car rental to other people” (Chung and Petrick, 2013, p. 175).

3.4.4 Study 3

The experimental study 3 comprised of two parts, which are same as study 1 without the manipulation part (refer to section 3.4.2 for details). All measurement scales used in this study are same as study 1. In addition, thinking styles measurement was done in the same way as that of pretest1.

3.4.5 Study 4

Similar to study 3, this experimental study also consisted of two parts –i) Participants were asked to read following hypothetical scenario of price increase event in context of a budget hotel: “Imagine you need to book a budget hotel for a leisure purpose. You get to the website for budget hotel, which you commonly use. During the procedure of hotel booking, you discover that the price has increased compared to last time though location, room type, booking season, facilities and amenities are same as your last booking”. ii) Participants completed perceived price fairness, cognitive attribution, holistic-analytic thinking style, purchase intention, and behavioural loyalty measurement scales including specific demographic information. Apart from thinking styles, all measurement scales used in this study are same as study 2 with modification according to the context of budget hotel. Thinking styles measurement was done in the same way as that of pretest1.

3.4.6 Study 5

The experimental study 5 included three segments – i) Need for closure was manipulated by the procedure mentioned in the section “Need for closure manipulation”. Segments ii) and iii) are same as study 2 (refer to section 3.4.3 for details). All measurement scales used in this study are same as study 2.

4. RESULTS

In case of pretest 1 and 2 along with experimental study 3 and 4, all the assumptions of independent sample t-test were met. In case of study 1, 2 and 5 all assumptions of anova were met.

4.1 Pretest1 and pretest2 analysis

Computed Cronbach’s α pertaining to styles of thinking ($\alpha = .717$) and need for closure ($\alpha = .941$) measurement of pretest 1 and pretest 2 respectively, confirm that the measurements are internally consistent with acceptable level. Independent samples t-test findings of pretest 1 indicated that in thinking styles measurement scale, analytically-manipulated participants obtained significantly lower than their holistically-manipulated counterparts ($M_{analytic} = 4.56$, $M_{holistic} = 5.54$), $t(45) = 5.23$, $p < .001$ with $d = 1.53$, i.e., effect size = large. Specifically, styles of thinking measurement scale was statistically significantly different for holistically-manipulated and analytically-manipulated participants, given .05 alpha level. Moreover, independent samples t-test findings of pretest 2 indicated that the need for closure measurement scale, low need for closure manipulated participants obtained significantly lower than their high need for closure manipulated participants ($M_{low} = 3.09$, $M_{high} = 4.29$), $t(30) = 4.19$, $p < .001$ with $d = 1.48$, i.e., effect size = large. Specifically, need for closure measurement scale was statistically significantly different for high and low need for closure manipulated participants, given .05 alpha level. Thus, pretest 1 and pretest 2 demonstrated adequate manipulation technique of thinking styles and need for closure respectively.

4.2 Study 1 analysis

Computed Cronbach’s α , i.e., .891 and .809 pertaining to perceived price fairness and cognitive attribution individually confirm that the measurements are internally consistent with acceptable level. Computed results of single-factor ANOVA are illustrated in Table 4.1. As reflected in the table, cognitive attribution was significantly influenced by thinking styles, $F(2, 273) = 29.26$, $p < .001$ with $\eta^2 = .18$, i.e., effect size = large. Moreover, perceived price fairness was significantly influenced by thinking styles, $F(2, 273) = 18.14$, $p < .001$ with $\eta^2 = .12$, i.e., effect size = large. In particular, cognitive attribution and perceived price fairness differed in relation to varying conditions of thinking styles. Aforementioned differences had statistical significance, given .05 alpha level.

Table 4.1 ANOVA

Measure	Conditions	<i>M</i>	<i>SD</i>	F	p-value	η^2
Cognitive attribution	Analytic	3.08	1.19	29.26	.000*	.18
	Control	3.71	1.10			
	Holistic	4.33	1.04			
Perceived price fairness	Analytic	2.62	.90	18.14	.000*	.12
	Control	3.00	.77			
	Holistic	3.37	.85			

* $p < .05$

Source: Computed by the thesis writer

Additionally, computed results of Tukey post hoc test are illustrated in Table 4.2. Based on the table, group pertaining to individuals manipulated holistically vis-à-vis group pertaining to individuals manipulated analytically displayed a significant cognitive attribution (1.25) and perceived price fairness (.75) mean rise from latter to former group with CI [.87, 1.64] and CI [.46, 1.04] respectively not containing 0 and $p < .001$. Analogously, group pertaining to individuals manipulated analytically vis-à-vis group pertaining to control individuals displayed a significant cognitive attribution (.62) and perceived price fairness (.38) mean fall from latter to former group with CI [-1.01, -.24] and CI [-.67, -.08] not containing 0 along $p < .001$ and $p = .007$ respectively. Correspondingly, group pertaining to individuals manipulated holistically vis-à-vis group pertaining to control individuals displayed a significant cognitive attribution (.63) and perceived price fairness (.37) mean rise from latter to former group with CI [.24, 1.01] and [.08, .66] not containing 0 along $p < .001$ and $p = .009$ respectively. Cognitive attribution and perceived price fairness varied amongst groups with variances being statistically significant. Predictably, higher perceived price fairness was detected in holistic thinkers group when compared with the analytic thinkers group, thus implied acceptance of H1.

Table 4.2 Turkey HSD

Measure	Conditions		MD	p-value	95% CI	
					LB	UB
Cognitive attribution	Holistic	Analytic	1.25*	.000	.87	1.64
	Analytic	Control	-.62*	.000	-1.01	-.24
	Holistic	Control	.63*	.000	.24	1.01
Perceived price fairness	Holistic	Analytic	.75*	.000	.46	1.04
	Analytic	Control	-.38*	.007	-.67	-.08
	Holistic	Control	.37*	.009	.08	.66

* $p < .05$

Source: Computed by the thesis writer

Employing Hayes (2018) “PROCESS Model 4 with 5000 bootstrap samples and 95% bias–corrected CIs” (Newman et al., 2019, p. 88) H2 was tested. IE of analytic thinking style on perceived price fairness by means of cognitive attribution = $-.30$ with the bootstrap CI being non-inclusive of 0 along completely below 0 ($-.47$ to $-.13$). Hence, abovementioned IE was significantly negative. Likewise, IE of holistic thinking style on perceived price fairness by means of cognitive attribution = $.31$ with the bootstrap CI being non-inclusive of 0 along completely above 0 ($.16$ to $.47$). Hence, abovementioned IE was significantly positive. Therefore, detection of anticipated effects of mediation implied acceptance of H2.

Employing Hayes (2018) “PROCESS Model 6 with 5000 bootstrap samples and 95% bias–corrected CIs” (Newman et al., 2019, p. 89) H3 and H4 were tested. IE of analytic thinking style on purchase intention by means of cognitive attribution and perceived price fairness in serial = $-.13$ with the bootstrap CI being non-inclusive of 0 along completely below 0 ($-.24$ to $-.04$). Hence, abovementioned IE was significantly negative. Likewise, IE of holistic thinking style on purchase intention by means of cognitive attribution and perceived price fairness in serial = $.11$ with the bootstrap CI being non-inclusive of 0 along completely above 0 ($.03$ to $.23$). Hence, abovementioned IE was significantly positive. Therefore, detection of anticipated effects of serial mediation implied acceptance of H3.

4.3 Study 2 analysis

Computed Cronbach’s α , i.e., $.885$, $.733$, $.874$, and $.800$ pertaining to behavioural loyalty, purchase intention, perceived price fairness, and cognitive attribution individually confirm that the measurements are internally consistent with acceptable level. Computed results of single-factor ANOVA are illustrated in Table 4.3. As reflected in the table, cognitive attribution was significantly influenced by thinking styles, $F(2, 168) = 28.04$, $p < .001$ with $\eta^2 = .25$, i.e., effect size = large. Moreover, perceived price fairness was significantly influenced by thinking styles, $F(2, 168) = 30.07$, $p < .001$ with $\eta^2 = .26$, i.e., effect size = large. In addition, purchase intention was significantly influenced by thinking styles, $F(2, 168) = 19.94$, $p < .001$ with $\eta^2 = .19$, i.e., effect size = large. Furthermore, behavioural loyalty was significantly influenced by thinking styles, $F(2, 168) = 21.03$, $p < .001$ with $\eta^2 = .20$, i.e., effect size = large. In particular, cognitive attribution, perceived price fairness, purchase intention, and behavioural loyalty differed in relation to varying conditions of thinking styles. Aforementioned differences had statistical significance, given $.05$ alpha level.

Table 4.3 ANOVA

Measure	Conditions	<i>M</i>	<i>SD</i>	<i>F</i>	p-value	η^2
Cognitive attribution	Analytic	3.04	1.14	28.04	.000*	.25
	Control	3.90	1.00			
	Holistic	4.61	1.20			
	Analytic	2.67	.82			

Perceived price fairness	Control	3.12	.64	30.07	.000*	.26
	Holistic	3.74	.75			
Purchase intention	Analytic	2.56	1.03	19.94	.000*	.19
	Control	3.27	1.20			
	Holistic	3.85	1.04			
Behavioural loyalty	Analytic	2.37	.90	21.03	.000*	.20
	Control	2.90	.77			
	Holistic	3.37	.79			

* $p < .05$

Source: Computed by the thesis writer

Additionally, computed results of Tukey post hoc test are illustrated in Table 4.4. Based on the table, group pertaining to individuals manipulated holistically vis-à-vis group pertaining to individuals manipulated analytically displayed a significant cognitive attribution (1.56), perceived price fairness (1.07), purchase intention (1.29), and behavioural loyalty (1.00) mean rise from latter to former group with CI [1.07, 2.06], CI [.74, 1.40], CI [.81, 1.78], and CI [.64, 1.36] respectively not containing 0 and $p < .001$. Analogously, group pertaining to individuals manipulated analytically vis-à-vis group pertaining to control individuals displayed a significant cognitive attribution (.86), perceived price fairness (.45), purchase intention (.71), and behavioural loyalty (.52) mean fall from latter to former group with CI [-1.35, -.36], CI [-.78, -.13], CI [-1.20, -.23], and CI [-.89, -.16] not containing 0 along $p < .001$, $p = .004$, $p = .002$, and $p = .003$ respectively. Correspondingly, group pertaining to individuals manipulated holistically vis-à-vis group pertaining to control individuals displayed a significant cognitive attribution (.71), perceived price fairness (.62), purchase intention (.58), and behavioural loyalty (.48) mean rise from latter to former group with CI [.21, 1.20], CI [.29, .94], CI [.94, 1.06], and CI [.11, .84] not containing 0 along $p = .003$, $p < .001$, $p = .015$, and $p = .007$ respectively. Cognitive attribution, perceived price fairness, purchase intention and behavioural loyalty varied amongst groups with variances being statistically significant. Predictably, higher perceived price fairness was detected in holistic thinkers group when compared with the analytic thinkers group, thus implied acceptance of H1.

Table 4.4 Turkey HSD

Measure	Conditions		MD	p-value	95% CI	
					LB	UB
Cognitive attribution	Holistic	Analytic	1.56*	.000	1.07	2.06
	Analytic	Control	-.86*	.000	-1.35	-.36
	Holistic	Control	.71*	.003	.21	1.20
	Holistic	Analytic	1.07*	.000	.74	1.40
	Analytic	Control	-.45*	.004	-.78	-.13

Perceived price fairness	Holistic	Control	.62*	.000	.29	.94
Purchase intention	Holistic	Analytic	1.29*	.000	.81	1.78
	Analytic	Control	-.71*	.002	-1.20	-.23
	Holistic	Control	.58*	.015	.94	1.06
Behavioural loyalty	Holistic	Analytic	1.00*	.000	.64	1.36
	Analytic	Control	-.52*	.003	-.89	-.16
	Holistic	Control	.48*	.007	.11	.84

* $p < .05$

Source: Computed by the thesis writer

In addition, employing Hayes (2018) “PROCESS Model 4 with 5000 bootstrap samples and 95% bias–corrected CIs” (Newman et al., 2019, p. 88) H2 was tested. IE of analytic thinking style on perceived price fairness by means of cognitive attribution = $-.34$ with the bootstrap CI being non-inclusive of 0 along completely below 0 ($-.52$ to $-.18$). Hence, abovementioned IE was significantly negative. Likewise, IE of holistic thinking style on perceived price fairness by means of cognitive attribution = $.28$ with the bootstrap CI being non-inclusive of 0 along completely above 0 ($.12$ to $.45$). Hence, abovementioned IE was significantly positive. Therefore, detection of anticipated effects of mediation implied acceptance of H2.

Moreover, employing Hayes (2018) “PROCESS Model 6 with 5000 bootstrap samples and 95% bias–corrected CIs” (Newman et al., 2019, p. 89) H3 and H4 were tested. IE of analytic thinking style on purchase intention by means of cognitive attribution and perceived price fairness in serial = $-.13$ with the bootstrap CI being non-inclusive of 0 along completely below 0 ($-.24$ to $-.04$). Hence, abovementioned IE was significantly negative. Likewise, IE of holistic thinking style on purchase intention by means of cognitive attribution and perceived price fairness in serial = $.11$ with the bootstrap CI being non-inclusive of 0 along completely above 0 ($.03$ to $.23$). Hence, abovementioned IE was significantly positive. Therefore, detection of anticipated effects of serial mediation implied acceptance of H3. Furthermore, IE of analytic thinking style on behavioural loyalty by means of cognitive attribution and perceived price fairness in serial = $-.15$ with the bootstrap CI being non-inclusive of 0 along completely below 0 ($-.27$ to $-.07$). Hence, abovementioned IE was significantly negative. Likewise, IE of holistic thinking style on behavioural loyalty by means of cognitive attribution and perceived price fairness in serial = $.13$ with the bootstrap CI being non-inclusive of 0 along completely above 0 ($.04$ to $.25$). Hence, abovementioned IE was significantly positive. Therefore, detection of anticipated effects of serial mediation implied acceptance of H4.

4.4 Study 3 analysis

Computed Cronbach’s α , i.e., .897, .895, and .744 pertaining to thinking styles, perceived price fairness, and cognitive attribution individually confirm that the measurements are internally consistent with acceptable level. Table 4.5 illustrates independent samples t-test findings. As reflected in the table, cognitive attribution was significantly influenced by culture, $t(128) = 4.34, p < .001$ with $d = .80$, i.e., effect size = large. Moreover, perceived price fairness was significantly influenced by culture, $t(128) = 2.71, p = .008$ with $d = .50$, i.e., effect size = medium. In particular, cognitive attribution and perceived price fairness differed in relation to varying cultures. Aforementioned differences had statistical significance, given .05 alpha level. Easterners mean cognitive attribution was .84, 95% CI [.46 to 1.22] higher than westerners mean cognitive attribution. Furthermore, easterners mean perceived price fairness was .41, 95% CI [.11 to .71] higher than westerners mean perceived price fairness. H5 is accepted.

Table 4.5 t-test

Measure	Culture	<i>M</i>	<i>SD</i>	<i>t</i>	p-value	<i>d</i>
Cognitive attribution	Easterner	4.15	1.18	4.34	.000*	.80
	Westerner	3.31	1.02			
Perceived price fairness	Easterner	3.21	.84	2.71	.008*	.50
	Westerner	2.80	.89			

* $p < .05$

Source: Computed by the thesis writer

Employing Hayes (2018) “PROCESS Model 4 with 5000 bootstrap samples and 95% bias–corrected CIs” (Newman et al., 2019, p. 88) H6 was tested. IE of culture on perceived price fairness by means of cognitive attribution = .24 with the bootstrap CI being non-inclusive of 0 along completely above 0 (.06 to .43). Hence, abovementioned IE was significantly positive. Therefore, detection of anticipated effect of mediation implied acceptance of H6.

Additionally, without regard to culture, analytic and holistic thinkers groups were obtained by conducting a median split on thinking styles measure for presenting supplementary proof that variances in cultures can be ascribed to thinking styles. The aforementioned groups’ comparisons on cognitive attribution and fairness perception pertaining to price should imitate the variances in cultures amid Westerners and Easterners. Table 4.6 illustrates independent samples t-test findings. As reflected in the table, cognitive attribution was significantly influenced by thinking styles, $t(128) = 2.55, p = .012$ with $d = .45$, i.e., effect size = fairly medium. Moreover, perceived price fairness was significantly influenced by thinking styles, $t(128) = 3.47, p = .001$ with $d = .61$, i.e., effect size = medium to large. In particular, cognitive attribution and perceived price fairness differed in relation to varying thinking styles. Aforementioned differences had statistical significance, given .05 alpha level. Holistic

thinkers' mean cognitive attribution was .52, 95% CI [.12 to .92] higher than their analytic counterparts. H7 is accepted. Furthermore, holistic thinkers' mean perceived price fairness was .52, 95% CI [.22 to .81] than analytic thinkers' mean perceived price fairness. H8 is accepted.

Table 4.6 t-test

Measure	Thinking styles	<i>M</i>	<i>SD</i>	<i>t</i>	p-value	<i>d</i>
Cognitive attribution	Holistic	3.99	1.28	2.55	.012*	.45
	Analytic	3.47	1.01			
Perceived price fairness	Holistic	3.26	.93	3.47	.001*	.61
	Analytic	2.74	.76			

* $p < .05$

Source: Computed by the thesis writer

4.5 Study 4 analysis

Computed Cronbach's α , i.e., .915, .844, .750, .816, and .708 pertaining to thinking styles, behavioural loyalty, purchase intention, perceived price fairness, and cognitive attribution individually confirm that the measurements are internally consistent with acceptable level. Table 4.7 illustrates independent samples t-test findings. As reflected in the table, cognitive attribution was significantly influenced by culture, $t(151) = 5.47, p < .001$ with $d = .88$, i.e., effect size = large. Moreover, perceived price fairness was significantly influenced by culture, $t(151) = 5.51, p < .001$ with $d = .89$, i.e., effect size = large. In addition, purchase intention was significantly influenced by culture, $t(151) = 4.74, p < .001$ with $d = .77$, i.e., effect size = fairly large effect size. Furthermore, behavioural loyalty was significantly influenced by culture, $t(151) = 5.51, p < .001$ with $d = .89$, i.e., effect size = large. In particular, cognitive attribution, perceived price fairness, purchase intention, and behavioural loyalty differed in relation to varying cultures. Aforementioned differences had statistical significance, given .05 alpha level. Easterners mean cognitive attribution was .94, 95% CI [.60 to 1.28] higher than westerners mean cognitive attribution. Moreover, easterners mean perceived price fairness was .66, 95% CI [.42 to .90] higher than westerners mean perceived price fairness. H5 is accepted. In addition, easterners mean purchase intention was .73, 95% CI [.42 to 1.03] higher than westerners mean purchase intention. Furthermore, Easterners mean behavioural loyalty was .70, 95% CI [.45 to .94] higher than westerners mean behavioural loyalty.

Table 4.7 t-test

Measure	Culture	<i>M</i>	<i>SD</i>	<i>t</i>	p-value	<i>d</i>
Cognitive attribution	Easterner	4.11	1.05	5.47	.000*	.88
	Westerner	3.16	1.08			

Perceived price fairness	Easterner	3.41	.76	5.51	.000*	.89
	Westerner	2.71	.72			
Purchase intention	Easterner	3.44	.95	4.74	.000*	.77
	Westerner	2.71	.94			
Behavioural loyalty	Easterner	3.21	.75	5.51	.000*	.89
	Westerner	2.52	.81			

* $p < .05$

Source: Computed by the thesis writer

Employing Hayes (2018) “PROCESS Model 4 with 5000 bootstrap samples and 95% bias–corrected CIs” (Newman et al., 2019, p. 88) H6 was tested. IE of culture on perceived price fairness by means of cognitive attribution = .38 with the bootstrap CI being non-inclusive of 0 along completely above 0 (.22 to .55). Hence, abovementioned IE was significantly positive. Therefore, detection of anticipated effect of mediation implied acceptance of H6. Moreover, employing Hayes (2018) “PROCESS Model 6 with 5000 bootstrap samples and 95% bias–corrected CIs” (Newman et al., 2019, p. 89) H9 and H10 were tested. IE of culture on purchase intention by means of cognitive attribution and perceived price fairness in serial = .13 with the bootstrap CI being non-inclusive of 0 along completely above 0 (.05 to .23). Hence, abovementioned IE was significantly positive. Therefore, detection of anticipated effect of serial mediation implied acceptance of H9. Furthermore, IE of culture on behavioural loyalty by means of cognitive attribution and perceived price fairness in serial = .14 with the bootstrap CI being non-inclusive of 0 along completely above 0 (.06 to .25). Hence, abovementioned IE was significantly positive. Therefore, detection of anticipated effect of serial mediation implied acceptance of H10.

Similar to study 3, median split on thinking styles measure was performed for presenting supplementary proof that variances in cultures can be ascribed to thinking styles. Table 4.8 illustrates independent samples t-test findings. As reflected in the table, cognitive attribution was significantly influenced by thinking styles, $t(151) = 2.58$, $p = .011$ with $d = .42$, i.e., effect size = fairly medium. Moreover, perceived price fairness was significantly influenced by thinking styles, $t(151) = 2.99$, $p = .003$ with $d = .50$, i.e., effect size = medium. In addition, purchase intention was significantly influenced by thinking styles, $t(151) = 2.54$, $p = .012$ with $d = .41$, i.e., effect size = fairly medium. Furthermore, behavioural loyalty was significantly influenced by thinking styles, $t(151) = 2.20$, $p = .029$ with $d = .40$, i.e., effect size = fairly medium.

In particular, cognitive attribution, perceived price fairness, purchase intention, and behavioural loyalty differed in relation to varying thinking styles. Aforementioned differences had statistical significance, given .05 alpha level. Holistic thinkers’ mean cognitive attribution was .48, 95% CI [.11 to .84] higher than their analytic counterparts. H7 is accepted. Moreover, holistic thinkers mean perceived price fairness was .38, 95% CI [.13 to .63] higher than analytic thinkers mean perceived price fairness. H8 is accepted. In addition, holistic thinkers mean purchase intention

was .41, 95% CI [.09 to .73] higher than analytic thinkers mean purchase intention. H11 is accepted. Furthermore, holistic thinkers mean behavioural loyalty was .30, 95% CI [.03 to .57] higher than analytic thinkers mean behavioural loyalty. H12 is accepted.

Table 4.8 t-test

Measure	Thinking styles	<i>M</i>	<i>SD</i>	<i>t</i>	p-value	<i>d</i>
Cognitive attribution	Holistic	3.86	1.20	2.58	.011*	.42
	Analytic	3.39	1.08			
Perceived price fairness	Holistic	3.26	.83	2.99	.003*	.50
	Analytic	2.88	.75			
Purchase intention	Holistic	3.27	1.05	2.54	.012*	.41
	Analytic	2.86	.94			
Behavioural loyalty	Holistic	3.01	0.84	2.20	.029*	.40
	Analytic	2.71	0.84			

* $p < .05$

Source: Computed by the thesis writer

4.6 Study 5 analysis

Computed Cronbach's α , i.e., .854, .723, .879, and .717 pertaining to behavioural loyalty, purchase intention, perceived price fairness, and cognitive attribution individually confirm that the measurements are internally consistent with acceptable level. Computed results of single-factor ANOVA are illustrated in Table 4.9. As reflected in the table, cognitive attribution was significantly influenced by need for closure, $F(2, 159) = 22.53, p < .001$ with $\eta^2 = .22$, i.e., effect size = large. Moreover, perceived price fairness was significantly influenced by need for closure, $F(2, 159) = 13.62, p < .001$ with $\eta^2 = .15$, i.e., effect size = large. In addition, purchase intention was significantly influenced by need for closure, $F(2, 159) = 12.04, p < .001$ with $\eta^2 = .13$, i.e., effect size = fairly large. Furthermore, behavioural loyalty was significantly influenced by need for closure, $F(2, 159) = 21.59, p < .001$ with $\eta^2 = .21$, i.e., effect size = large. In particular, cognitive attribution, perceived price fairness, purchase intention, and behavioural loyalty differed in relation to varying conditions of need for closure. Aforementioned differences had statistical significance, given .05 alpha level.

Table 4.9 ANOVA

Measure	Conditions	<i>M</i>	<i>SD</i>	<i>F</i>	p-value	η^2
Cognitive attribution	High	3.21	1.03	22.53	.000*	.22
	Control	3.74	.98			
	Low	4.49	.98			

Perceived price fairness	Low	3.68	.76	13.62	.000*	.15
	Control	3.27	.74			
	High	2.87	.92			
Purchase intention	Low	4.40	.98	12.04	.000*	.13
	Control	3.85	1.21			
	High	3.30	1.30			
Behavioural loyalty	Low	3.49	.70	21.59	.000*	.21
	Control	3.03	.67			
	High	2.55	.86			

* $p < .05$

Source: Computed by the thesis writer

Additionally, computed results of Tukey post hoc test are illustrated in Table 4.10. Based on the table, group pertaining to individuals manipulated with low need for closure vis-à-vis group pertaining to individuals manipulated with high need for closure displayed a significant cognitive attribution (1.28), perceived price fairness (.81), purchase intention (1.10), and behavioural loyalty (.94) mean rise from latter to former group with CI [.83, 1.74], CI [.45, 1.18], CI [.57, 1.64], and CI [.60, 1.28] respectively not containing 0 and $p < .001$. Analogously, group high need for closure manipulated group vis-à-vis control group displayed a significant cognitive attribution (.53), perceived price fairness (.40), purchase intention (.56), and behavioural loyalty (.49) mean fall from latter to former group with CI [-.99, -.08], CI [-.77, -.03], CI [-1.09, -.02], and CI [-.83, -.15] not containing 0 along $p = .017$, $p = .031$, $p = .039$, and $p = .003$ respectively. Correspondingly, low need for closure manipulated group vis-à-vis control group displayed a significant cognitive attribution (.75), perceived price fairness (.42), purchase intention (.55), behavioural loyalty (.46) mean rise from latter to former group with CI [.30, 1.20], CI [.05, .79], CI [.02, 1.08], and CI [.12, .80] not containing 0 along $p < .001$, $p = .023$, $p = .042$, and $p = .005$ respectively. Cognitive attribution, perceived price fairness, purchase intention, and behavioural loyalty varied amongst groups with variances being statistically significant. Predictably, low need for closure group showed greater perceived price fairness than the high need for closure group. H13 is accepted.

Table 4.4 Turkey HSD

Measure	Conditions		MD	p-value	95% CI	
					LB	UB
Cognitive attribution	Low	High	1.28*	.000	.83	1.74
	High	Control	-.53*	.017	-.99	-.08
	Low	Control	.75*	.000	.30	1.20
	Low	High	.81*	.000	.45	1.18
	High	Control	-.40*	.031	-.77	-.03

Perceived price fairness	Low	Control	.42*	.023	.05	.79
Purchase intention	Low	High	1.10*	.000	.57	1.64
	High	Control	-.56*	.039	-1.09	-.02
	Low	Control	.55*	.042	.02	1.08
Behavioural loyalty	Low	High	.94*	.000	.60	1.28
	High	Control	-.49*	.003	-.83	-.15
	Low	Control	.46*	.005	.12	.80

* $p < .05$

Source: Computed by the thesis writer

In addition, employing Hayes (2018) “PROCESS Model 4 with 5000 bootstrap samples and 95% bias–corrected CIs” (Newman et al., 2019, p. 88) H14 was tested. IE of high need for closure on perceived price fairness by means of cognitive attribution = $-.28$ with the bootstrap CI being non-inclusive of 0 along completely below 0 ($-.51$ to $-.08$). Hence, abovementioned IE was significantly negative. Likewise, IE of low need for closure on perceived price fairness by means of cognitive attribution = $.39$ with the bootstrap CI being non-inclusive of 0 along completely above 0 ($.19$ to $.59$). Hence, abovementioned IE was significantly positive. Therefore, detection of anticipated effects of mediation implied acceptance of H14.

Moreover, employing Hayes (2018) “PROCESS Model 6 with 5000 bootstrap samples and 95% bias–corrected CIs” (Newman et al., 2019, p. 89) H15 and H16 were tested. IE of high need for closure on purchase intention by means of cognitive attribution and perceived price fairness in serial = $-.08$ with the bootstrap CI being non-inclusive of 0 along completely below 0 ($-.20$ to $-.0023$). Hence, abovementioned IE was significantly negative. Likewise, IE of low need for closure on purchase intention by means of cognitive attribution and perceived price fairness in serial = $.11$ with the bootstrap CI being non-inclusive of 0 along completely above 0 ($.01$ to $.26$). Hence, abovementioned IE was significantly positive. Therefore, detection of anticipated effects of serial mediation implied acceptance of H15. Furthermore, IE of high need for closure on behavioural loyalty by means of cognitive attribution and perceived price fairness in serial = $-.13$ with the bootstrap CI being non-inclusive of 0 along completely below 0 ($-.25$ to $-.03$). Hence, abovementioned IE was significantly negative. Likewise, IE of low need for closure on behavioural loyalty by means of cognitive attribution and perceived price fairness in serial = $.18$ with the bootstrap CI being non-inclusive of 0 along completely above 0 ($.08$ to $.30$). Hence, abovementioned IE was significantly positive. Therefore, detection of anticipated effects of serial mediation implied acceptance of H16.

5. DISCUSSION

Study 1 exhibits that thinking styles significantly influence perceived price fairness. Particularly, holistic thinkers perceive a price increase as fairer than analytic thinkers.

Cognitive attribution mediates this effect. Concerning prior studies, Yoon (2013) paper displays analogous outcomes where thinking styles shape causal attributions, utilising university students of U.S. Monga and John (2008) demonstrated that relative to analytic thinkers, holistic thinkers deploy more external context-dependent influences while ascribing causality, leading them in having less inclination of negatively revising brand evaluation. Similarities with former papers are also observed where “cognitive attribution positively influenced price fairness” (Chung and Petrick, 2013, p.175) as well as “price increases driven by external factors are perceived as fairer than those driven by internal factors” (Vaidyanathan and Aggarwal, 2003, p. 455). Replication of the aforesaid study outcomes occurred in study 2 in relation to a different kind of service with a more typical sample, indicating fair robustness of study 1 results. Furthermore, study 2 extended the causal links. This study reveals analytic thinkers with lower cognitive attribution perceive a price increase as less fair and thereby have lower purchase intention and behavioural loyalty than holistic thinkers. Laufer and Coombs (2006) paper exhibits analogous outcomes where customers who ascribed blame of a negative occurrence to a brand were less inclined to purchase their products. Konuk (2018) studies demonstrate positive association among price fairness and buying intention. Vidal (2012) study in France’s retail perspective as well exhibited analogous outcomes where customers who ascribed responsibility of a negative occurrence to service/product providers show lower loyalty. Pennycook et al. (2014) research exhibited similar outcomes where loyalty being part of binding moral values and analytic thinking are negatively correlated. Chung and Petrick (2013) as well as Liaoa et al. (2020) showed positive association among loyalty and price fairness in U.S. domestic airline and Taiwanese online gaming perspective. Results from study 3 confirm that cultural differences in cognitive attribution and perceived price fairness exist. Easterners (Indians) perceive a price increase as fairer than Westerners (Czechs). Current findings are concordant with Bolton et al. (2010) research that employing Chinese and U.S. customers as participants, exhibited differences in price fairness perceptions with respect to culture. Analogously, Shavitt and Barnes (2019) indicated differences in pricing practices fairness are shaped by culture. Moreover, the outcomes specify that the differences in perceived price fairness occur due to cultural variances in thinking styles. Study 4 replicated results of study 3 in relation to a different kind of service with a more typical sample, indicating fair robustness of study 3 results. Furthermore, study 4 extended the causal links. Findings of study 4 support the causal chain from culture to purchase intention and behavioural loyalty by means of cognitive attribution following, in turn, perceived price fairness. Current findings are concordant with Kahttab et al. (2012) research that exhibited differences in online purchase intention with respect to culture as well as with Lee (2017) research that reported cultural influence on purchase intention. Leslie and Korzenny (2015) also exhibited brand loyalty predicted by culture. Yoo (2009) found that individualist consumers exhibit weaker brand loyalty than collectivists in Korean and American consumers’ case. Cultural differences in thinking styles induce differences in cognitive attribution, price fairness perceptions,

purchase intention, and behavioural loyalty. These findings are concordant with Monga and John (2007), who recruiting U.S and Indian university students, presented association between cultural differences and thinking styles. Study 5 shows that need for closure significantly influences perceived price fairness. Particularly, low need for closure individuals perceives a price increase as fairer than high need for closure individuals. Research of Mattila and Choi (2012) displayed analogous outcomes of lower fairness perceptions among high need for closure consumers than low need for closure consumers. Cognitive attribution mediates the aforesaid effect. Pietrzak et al. (2014) research involving Polish university students exhibited analogous results specifying need for closure indirectly drives process fairness perceptions in negative direction. Webster (1994) also reported similar positive impact of need for closure on fundamental attribution error. This study also reveals high need for closure individuals with lower cognitive attribution perceive a price increase as less fair and thereby have lower purchase intention and behavioural loyalty than low need for closure individuals. The outcomes are concordant with Vermeir et al. (2002) outcomes that demonstrated significant differences among low and high need for closure consumers regarding purchase choice behaviour. Kim and Hwang (2017) involving South Korean fashion product consumers and Rempala et al. (2016) engaging individuals from USA, displayed analogous outcomes where consumers' need for closure influences their purchase intention and loyalty respectively.

6. CONCLUSION

The current research presents consumer attributional tendencies, perceptions, and reactions to price increase occurrence. The thesis outcomes exhibited price fairness perceptions, behavioural loyalty, purchase intention, and cognitive attribution differ amongst analytic and holistic thinkers. In a similar way, variances anent the aforementioned variables also endure amongst high as well as low need for closure individuals. Each one of these cognitive facets displays significant impact on all the aforesaid variables. Cognitive attribution with perceived price fairness performs the function of sequential mediators in the chain of causation amid cognitive influences and behavioural loyalty as well as purchase intention. Furthermore, outcomes also displayed cultural thinking styles disparities engendering the price fairness perceptions, behavioural loyalty, purchase intention, and cognitive attribution disparities. The dissertation demonstrates the impact of cognitive styles of thinking in both individual and cultural perspectives. However, it presents only individual perspective regarding the cognitive need for closure impact.

6.1 Theoretical contributions

The present research enriches our knowledge of how consumers with diverse thinking styles and need for closure respond toward price increase incident from behavioural loyalty, buying intention, and price fairness perspective. To author's knowhow, this thesis exemplifies the first endeavour that identifies important role of

thinking styles in determining consumers' price fairness perceptions and uncovers the interconnections among perceived price fairness, behavioural loyalty, buying intention, and cognitive attribution together with cognitive factors (i.e. thinking styles and need for closure). Additionally, to author's knowhow, current research also epitomises the first try that demonstrates the causal chain from cognitive factors to purchase intention and behavioural loyalty sequentially via cognitive attribution and price fairness perceptions. Furthermore, the thesis also contributes to multicultural consumer behaviour literary works through expanding the comprehension related to the cultural thinking styles variations inducing the variances of the aforesaid variables.

6.2 Practical contributions

The present dissertation imparts multiple pragmatic insinuations too. Findings of the thesis demonstrate that when rise in prices occurs, holistic thinkers as well as low need for closure individuals show higher cognitive attribution, perceived pricing impartiality, behavioural loyalty, and intentions of buying when compared with analytic thinkers as well as high need for closure individuals. These outcomes induce these tactics to shape thinking styles and need for closure can be helpful at handling buying intentions, price fairness as well as behavioural loyalty. The thesis findings imply that a firm can guard itself against decreasing buying intentions, price fairness as well as behavioural loyalty through tactically revealing and underscoring extraneous context-based influences as well as accentuating influences that are out of the hands of companies being rise in price grounds. Encouraging customers to focus on external context-based influences and/or uncontrollable factors (such as an outside supplier of the company raised prices of its materials or a market-wide shortage of raw materials) as well as limiting the conditions that foster need for closure (for instance, time pressure, dissatisfaction, anger, and noise) can also counter the aforesaid negative outcomes. Strategies that encourage thinking style namely holistic, for example, devising extrinsic context-based influences extra prominent, may boost customers in shifting blame to outside firms. Information about price increase should be managed carefully, particularly in case of analytic thinkers and high need for closure individuals. Moreover, since Westerners tend to be analytic thinkers and Easterners tend to be holistic thinkers, bearing in mind aforesaid multicultural variations in consumers' perceptions of pricing fairness, purchase intention, behavioural loyalty, and attributional propensities associated with their styles of thinking, may appear to be helpful to practitioners. This directs to the fact that price strategies should be properly differentiated specific to different consumers, or else there would be risks involved. Marketers and managers should not communicate the news regarding increased prices unselectively, rather they be factored towards cultural thinking styles variations impacting the aforementioned variables.

6.3 Limitation and future scope

This thesis work is also subject to drawbacks that open avenues towards prospective potentials for further investigation. Future research work based on naturally occurring scenarios (not artificially created scenarios) using other goods and services (not only restaurant, car rental, and budget hotel) would augment generalisability of the results. Future studies based on an integrated conceptual model, studying the impact of need for closure and thinking styles together would provide valuable insights. Future research work studying the effect of styles of thinking and need for closure on other managerially pertinent outcome variables such as complaining behaviour, willingness to pay more and revenge behaviour would also contribute to more comprehensively understanding the consumer reactions to price increase occurrences.

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 2. “DOKBAT 2017 - International Bata Conference”

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**Influence of Cognitive Factors on Consumers' Price Fairness
Perceptions, Behavioural Loyalty, and Purchase Intention**

Vliv kognitivních faktorů na spotřebitelské vnímání spravedlivě stanovené ceny,
loajální chování a nákupní záměr

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