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International Journal of Academe and Industry Research
Volume 4 Issue 4 December 2023
DOI: https://doi.org/10.53378/353023

Moderation Effects of Meagre Information Between Promotions and Usage of Traditional Medicine

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Abstract

Underpinned by the attribution theory, this study examines the moderating effect of meagre information in the relationship between promotions and consumer usage of traditional medicine (TM) in Central Uganda. Traditional medicine is trendy despite efficacious concerns raised by various empirical studies. While extant literature presents several motivations for the newfound TM patronage, more is needed to discuss the role of promotions in this regard. Relatedly, the literature needs to include the contribution of meagre information and how it moderates the relationship between TM promotion and consumer usage. Using Cochran, a sample of 369 TM users was drawn from the cosmopolitan districts of Central Uganda. SPSS 25.0 and Amos 22.0 were used to clean and analyse the data, while Andrew Hayes 3.5 was used to test for moderation. The Johnson-Neyman test showed that increasing meagre information to -2.2503 creates an effect; at this point, TM promotions on consumer usage are moderated. The study concludes that the potential for inconsistencies, inadequacies and incompleteness in information related to traditional medicine is immense. Whilst the Ugandan government is still challenged to provide ideal regulatory frameworks to ensure THPs' conformity to required safety, quality, and efficacy standards, they should make efforts to license and certify all THPs. Concerned regulatory bodies like the Uganda National Drug Authority and Uganda Communications Commission should regulate TM media communications to prevent the uneducated exaggeration of TM safety issues. They should streamline information disclosure to TM consumers and prohibit unbalanced public advertisements.

Keywords: *Traditional medicine usage, Promotion, Meagre information, Moderation*.

Article History:

Received: *September 3, 2023* ***Revised***: *October 18, 2023*
Accepted: *October 21, 2023* ***Published online***: *November 5, 2023*

Suggested Citation:
Nabachwa, S. & Kamukama, N. (2023). Moderation Effects of Meagre Information Between Promotions and Usage of Traditional Medicine. *International Journal of Academe and Industry Research*, 4 (4), 72-97. **https://doi.org/10.53378/353023**

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1. Introduction

The perception that traditional medicine (TM) is consumed by the elderly, illiterate and the very poor has since changed. The new paradigm shift has seen younger, highly educated urban dwellers and the very religious taking TM as an acceptable treatment option (Ameade et al., 2018; Ndhlala et al., 2011). Interestingly, some medical professionals also integrate TM modalities into their practices (Matole et al., 2021; Chitindingu et al., 2014), and others refer their patients to consult with traditional health practitioners (THPs) for certain illnesses (Dania, 2011). According to WHO (2023), over 40% of pharmaceutical products globally draw from traditional knowledge, and 88% of all countries use TM (WHO, 2019), most of whom are in Africa (James et al., 2017). Accordingly, African communities have a long history of TM usage, passed from generation to generation (Mukungu et al., 2016). In Uganda, TM is still famous and widely used despite conventional medicine's advancement and wide acceptability (Tugume et al., 2016; Nyeko et al., 2016). According to WHO (2019), the use of indigenous TM among Ugandans is estimated to be between 60–79%.

The TM, often interchangeably known as complementary and or alternative medicine (CAM) (Lotfia et al., 2016), is any form of medicine, practice, treatment, product, technology, knowledge system or ceremony outside of conventional medical practice aimed at preventing and treating illness and promoting wellbeing (Gall et al., 2019). It is indigenous knowledge of a given community and their experiences in the context of the local culture and environment (WHO, 2023). It covers, among others, herbal medicines, acupuncture, yoga, and indigenous therapies and is dynamic, varying from region to region, depending on the prevailing situation (WHO, 2019). Several probable reasons push for increased TM usage, including claims on its efficacy, the general belief that TM is safe because of its natural origin and the dissatisfaction with modern medicine (Welz et al., 2018; Lotfia et al., 2016; Ekor, 2014). In addition, for Ugandans especially, there are cultural inclinations towards TM; it is accessible and affordable, and the perceived approachability of THPs (Omara et al., 2020; Rutebemberwa et al., 2013).

There has been increased publicity for TM (Kigen et al., 2013). Adegoju (2008) attributes this to the widespread availability of media platforms and the stiff competition in the TM market. According to Rutebemberwa et al. (2013), the highly commercialized TM by several competing THPs could be a motivation for its high usage among Ugandans. Several THPs have taken to various media platforms to run TM promotions like adverts (on TV/Radio,

Newspapers and posters), sales promotions (price reductions, gifts and free trials), public relations (media tours/relations, sponsorships) and personal selling (on streets, buses, burial grounds). In addition, more THPs are buying airtime on radios and television stations and making bold claims about how they cure different ailments, including what conventional doctors cannot (Omoera et al., 2011). Furthermore, while the role of TM promotions towards TM usage has been and still is being investigated globally (Okumu, 2017; Adegoju, 2008; Omoera et al., 2011), the role of the inadequate and meagre information presented explicitly in the TM promotions is mainly lacking in the literature.

The contribution of scant and fragmentary information in TM promotions towards TM consumption must be considered. When presented with insufficient information before a transaction, it can be assumed that a consumer or seller could base his/her buying or selling decision on incomplete information, resulting in inefficient outcomes. Concerning medicines, promotions are often associated with quackery and are known to rely on information asymmetry (Burton, 1991). Extant literature has examined the extent of information asymmetry, particularly for credence products such as conventional Medicine (Wells et al., 2011), but more needs to be established for TM. The information asymmetry between THPs and TM users often propels consumers to search for essential information about the actual TM attributes, particularly effectiveness and safety, from various sources such as adverts. This allows THPs to take advantage of and manipulate or exaggerate the promotional information. For example, Feucht and Patel (2011) postulate that CAM/TM providers hardly disclose any known, suspected, unknown, short-term and long-term health implications related to the usage of their therapies. Likewise, Wang et al. (2011) argue that in delivering health care, health providers may hold or conceal some vital information and may not collect and communicate clinical and health information to specify what would constitute appropriate provision for the need of care relative to patients. In the case of TM, the information is often presented inadequately with jargon, confusing facts and ambiguous messages (Okumu, 2017), yet TM benefits are exaggerated (Adegoju, 2008). Unfortunately, regulations for the safety assessment of TM in Uganda are partly the same as those for conventional pharmaceuticals (WHO, 2019) and no specific regulatory status is given to TM. According to Tibugwisa (2019), no regulations or recommendations for sealing herbal medicine and no post-marketing survey are planned.

With the rampant TM promotions and the potentially conflicting information, the consumer needs to be more assured about the accuracy and quality of TM. This information could lead to many users making incorrect decisions (Doborji & Hamed, 2016). The current study investigates the issues on how flawed and deficient information affects consumer usage of TM. First, the study examines the role of TM promotions on consumer usage behaviour and then the moderating effect of meagre information in this relationship. Meagre information is conceptualised as scantiness in quantity and quality of crucial information consumers need to decide whether to buy TM.

2. Literature review

2.1. The attribution theory

When individuals encounter events or behaviours, they use causal attribution to make sense of them. The attribution theory is a perception theory that takes the lay observer's viewpoint as he/she sorts and interprets incoming information and infers causality (Robertson & Rossiter, 1974). The theory is attributable to Kelly (1967), who defined it as a theory about how causal explanations are made. It is a set of conceptualisations that describes the cognitive processes involved when an individual assigns an observable event to its underlying cause(s) (Settle & Golden, 1974). In their 1974 research, Settle and Golden applied the attribution theory in promotions. They hypothesised that advert readers would evoke attributional processes to interpret the validity of message claims. Consumers were expected to attribute the promotional claims to either the actual characteristics of the product or to the advertiser's desire to sell the product (Settle & Golden, 1974). In this regard, the audience must decide why the claims were made. According to Gotlieb and Sarel (1991), consumers who attributed message claims to the actual characteristics of the product were more likely to be confident in the claims and form more favourable attitudes toward the brand and vice versa.

Information can be classified as biased or unbiased, accurate or inaccurate, favourable or unfavourable (Chang & Kinnucan, 1991). According to Eagly et al. (1978), two informational biases could influence the audience's causal attributions: 1) the communicator might have to report bias in which he/she is unwilling to communicate an accurate representation of reality; 2) the audience could believe the communicator might have knowledge bias in which his/her message-relevant information is untrue. Consumers are expected to seek product information from various sources if they believe it would increase their information state (or attribution stability) more than data from alternate sources.

The attribution theory has also been investigated in sales promotion and how it affects consumer attitude formation by Sawyer and Dickson (1984). Sawyer and Dickson concluded that consumers who consistently purchase a brand because of a price-off deal might attribute their behaviour to the external promotional incentive rather than a favourable attitude toward the brand. By contrast, when no external incentive is available, consumers are more likely to attribute their purchase behaviour to favourable underlying feelings about the brand. Other studies on the same subject were done by Raghubir and Corfman (1999), who examined whether price promotions affect pre-trial evaluations of a brand. Offering a price promotion is more likely to lower a brand's evaluation when it has not been promoted previously than when it has been frequently promoted. Likewise, promotions are more likely to result in negative evaluations when they are uncommon in the industry (Belch & Belch, 2016). Studies by Montaner and Pina (2008) showed that promotions could decrease perceptions of quality and discount brand image. Relatedly, price promotions may inhibit a brand's trial or negatively impact brand attitudes in certain situations (Belch & Belch, 2016).

This study employed the attribution theory to explain how TM users attribute the TM promotions (sales promotions, personal selling, adverts and public relations) they get exposed to daily. According to Smith and Hunt (1978), the attribution theory is an ideal framework for predicting consumer behaviour.

2.2. Background Literature

Consumer behaviour refers to the activities, actions and influences of people who purchase and use products to satisfy their personal or household needs and wants (Hoffmann, 2007). It is the pursuit undertaken when obtaining, consuming and disposing products and services (Blackwell et al., 2001). Consumer usage behaviour requires understanding the actions directly involved in obtaining, consuming, and disposing of products and services, including the decision processes that precede and follow these actions (Ting-Tan & Freathy, 2011). It concerns all aspects of purchasing behaviour, from pre-purchase activities to post-purchase consumption, evaluation and disposal activities (Kotler & Keller, 2011). According to Lawan and Zanna (2013), it combines customers' usage consciousness and external incentives, resulting in behaviour remodelling.

Understanding consumer behaviours for TM is essential as it predicts market trends and points to preferences for various TM products. According to Koh and Goh (2021), the demand to use and pay for TM has dramatically increased. Globally, a sizable fraction of the

rural poor relies on TM for their primary health care despite globalization and modernization (WHO, 2023). This care is not only close to homes but accessible and affordable. Many consider it culturally acceptable and well-trusted (Sofowora, 1993). Consumer behaviour towards TM usage, mainly among African communities, is often instigated by push factors. These include, among others, poverty, limited access to primary care (particularly for rural dwellers), less comprehensive health coverage, ill-equipped or poorly staffed healthcare facilities and TM promotions (Logiel et al., 2021; Ssempijja et al., 2020). Consumption of TM varies significantly from country to country, as it is influenced by factors such as culture, history, personal attitudes and philosophy (WHO, 2013). Similarly, the TM knowledge among THPs is acquired differently and is often passed orally from the elders to the young (Ekor, 2014).

Recently, there has been an influx of THPs joining the TM trade due to concomitant unemployment and the increased competition in the TM market. This has created suspicion of deceptive promotions (García-Nieto et al., 2021; Omoera, 2011). Promotions are generally deemed deceptive if they create, increase or exploit false beliefs about a product/service's performance (García-Nieto et al., 2021; Prendergast et al., 2009). Most adverts are persuasively targeted at luring consumers into patronising the goods, services or ideas advertised (Asemah & Edegoh, 2013). In addition, the effort to entice buyers is often made up of many claims whose truth is often hard to establish (Nuseir, 2018).

The healthcare promotion debate has always been contentious (Rod & Saunders, 2009; Hasman & Holm, 2006). Proponents designate the promotional role, particularly advertising, as a critical information purveyor contributing to marketplace efficiencies (Belch & Belch, 2016). Likewise, promotions empower consumers to make choices and facilitate access to needed healthcare products (Mason & Scammon, 2000). As a promotional strategy, advertising is a powerful tool in creating product awareness in the mind of a potential consumer to make an eventual purchase decision (Latif & Abideen, 2011). Likewise, promotional incentives may provide positive reinforcement and help move consumers toward the regular purchase of a brand (Belch & Belch, 2016).

Critics of healthcare promotions, on the other hand, argue that the nature of healthcare products and the possibly long list of contraindications makes it hard, if not impossible, to fully disclose pharmaceutical properties in a 15 or 30-second television spot (Santas et al., 2020; Beales, 1991). The health information made available to patients through commercial

marketing is often inadequate, biased and untruthful (Mackert et al., 2011). When medical information is supplied, it is often presented vaguely without any evidence supporting the promotional claims (Dukes et al., 2001). Besides, with the proliferation of digital marketing for healthcare products, especially herbal medicine, consumers can be left confused with nowhere to verify the authenticity of the claims (Owens et al., 2014; Gaslin et al., 2008). Promotions can be irritating and deceptive, downplaying product risks while overstating product benefits (Woloshin et al., 2001). Where information is inadequate or incomplete, users depend on clues such as promotions to prompt their internal cognition to decide whether to buy a product (Zaltman, 2003). Hence, this study hypothesise that,

H1: Promotions of traditional medicine positively affect consumer usage behaviours.

It can be observed that traditional medicine is a credence good, and credence products are more prone to information asymmetries because of the intangible attributes that consumers may need to evaluate even after purchasing and consuming (Nayyar, 1993). As a result, there is often pre-purchase information scarcity for these products in which the consumer is incapacitated to access or interpret the product's quality attributes before purchasing (Wells et al., 2011). These asymmetries persist in healthcare partially because of the health system's idiosyncrasy, which often relates to the user's inability to assess care needs accurately (Wang et al., 2011). They thus become fundamental barriers to rational and informed choices (Liberati & Magrini, 2003), as those who lack the information (patients) are often bound to make worse decisions than those who have it (health providers). Consequently, pre-purchase information is scarce for these products, as consumers cannot access or interpret the product's quality attributes before purchasing (Wells et al., 2011).

The asymmetries in information between THPs and TM consumers will almost certainly emerge because of the wide variations of TM attributes, the scarcity of information concerning its production techniques and the ignorance of most TM consumers. Whenever consumers need to evaluate key characteristics of healthcare goods before purchase, they continually experience uncertainty about the value of these goods as they approach the decision point (Nagler et al., 2011). In this case, consumers attempt to reduce cognitive dissonance and the psychological discomfort related to uncertain decisions by seeking exposure to information that reinforces the decision (Bloom & Reve, 1990). In their desperation to reduce the risk of making an adverse selection, TM users may be forced to search for more information from

several sources, among them friends and family, advertisements, and the internet. Unfortunately, these sources can be questionable since their proponents need to be better researched, and their practice has partially been passed on from generation to generation without clinical trials. Additionally, TM information is rarely documented, and the THP's claims can hardly be verified.

From the preceding perspective, one can arguably suspect that THPs manipulate even the little information available and induce demand using this meagre information. Therefore, this study hypothesise that

H2: Meagre information is associated with consumer usage of traditional medicine.

While it is plausible to assume that the relationship between promotions and consumer usage of traditional medicine can indeed exist, this relationship could be significantly modified and or enhanced by the existence of inadequate, untruthful, meagre and or misinformation. Meagre information in this study relates to un-researched/unauthenticated and unverifiable information, fraud (to create false impressions), inconsistency in claimed facts and misleading (untruth about product features). According to Hasan et al. (2019), misleading advertising is a profitable activity that includes giving false information, lying, deceiving, or cheating consumers to make them choose what they would not otherwise have chosen. Unfortunately, it can always be assumed that consumers are naive because they always believe misinformation from misleading advertising (Glaeser & Ujhelyi, 2010).

Owing to the forgoing perspective, it is essential to empirically test the moderating role of meagre information between TM promotions and the consumer usage behaviour of TM. This investigation is vital to TM consumers, THPs and other interested parties in deepening their understanding of the overwhelming demand for TM and its likely consequences. Likewise, this study gives policymakers valuable insights to design better laws protecting Ugandans, promoting healthy TM communications, and safeguarding unscrupulous competition among the THPs. This study hypothesises that

H3: Meagre information moderates the relationship between promotions and consumer usage of traditional medicine.

3. Methodology

3.1. Setting

The study population was TM users in the cosmopolitan districts of Central Uganda. A sample size of 369 participants was calculated using Cochran's (1977) formula, taking the proportion at 60% (De Coninck, 2016). Kampala, Mukono, Luwero, Wakiso, and Mpigi districts were purposively selected because of their closeness to the Capital City. Researchers worked with Community Development Officers (CDOs) who had worked with the National Council for Traditional Healers and Herbalists' Association (NACOTHA) in registering THPs. The CDOs purposively introduced the researchers to herbalists renowned for their longevity in their respective practices and also had a large clientele. TM users were recruited from THPs' clinics and must have been exposed to TM promotions from various platforms.

3.2. Measurement

Modifications were made for promotions using the scale items by Gaziano and McGrath (1986). Items for consumer usage behaviour were also developed in part adapted from Friedman and Gould (2007) for TM inquiry or search for TM information. Item questions captured the search behaviours of TM users, particularly after exposure to TM promotions. TM usage or proneness to TM usage was partly developed by Baumgartner and Steenkamp (1996), and item questions captured how TM users generally consume TM. These included, among others, future usage of TM, using TM as a complementary drug, using TM as a first choice in treating an ailment, using TM concurrently with conventional medicine or even using TM against the advice of medical personnel. Seven items tapped information search behaviours, and six tapped proneness properties of usage behaviours.

A five-point Likert scale was employed, ranging from (1) strongly disagree to (5) strongly agree. The researchers developed the fragmentary or meagre information items with the guidance of Wang et al. (2011), who assert that 'in delivering health care, health providers may hold or conceal some vital information and may not collect and communicate clinical and health information to specify what would constitute appropriate provision for the need of care relative to patients'. The items included, among others, '*The TM I buy always has expiry dates*'; '*I often get a precise TM dosage from my THP'*; '*My THP tells me the side effects of TM'*; '*My THP always diagnoses me before giving me any treatment*'; '*THPs deliver on their promises as seen/heard in the media*'. Items were reverse coded before analysis to capture information incompleteness and inaccuracy.

3.3. Data Analysis

SPSS 25.0 and Amos 22.0 were used to clean and analyse the data, while Andrew Hayes 3.5. was used to test for moderation. Linearity was tested, and all relationships between the dependent and the independent variables were linear (Sig = .948 for meagre information and Sig = .834 for promotions). In table 1, the results show that all minimum standard cut-off points of P-close, GFI, AGFI, TLI, and CFI for all variables were met. Similarly, the Root Mean Square Error of Approximation (RMSEA) for each variable met the recommended standard ratio of less than or equal to .08.

Table 1

Summary of Measurement Model Results

Variable	CMIN	DF	PCLOSE	CMIN/ DF	GFI	AGFI	NFI	TLI	CFI	RMSEA	AVE
			≥.05	**<3**	**≥.95**	**≥.90**	**≥.95**	**≥.95**	**≥.95**	**≤.08**	**≥.5**
Promotions	125.59	71	.686	1.769	.954	.932	.982	.990	.992	.046	0.89
Meager I	13.545	8	.555	1.693	.988	.968	.983	.987	.993	.044	0.64
CB	50.632	19	.093	2.665	.966	.935	.979	.981	.987	.067	0.71

As shown in table 2, the values of Cronbach's alphas and those of the composite reliability were above the required threshold of .70 (Nunnally & Bernstein, 1994), which revealed internal consistency of all items. Results for the Average Variance Extracted (AVE) were between 0.64 and 0.89, way above Fornell and Larker's threshold of 0.5, which meant that the measurements had good discriminant validity.

Chi-square (CMIN), DF (Degrees of freedom), Goodness of fit (GFI), Adjusted Goodness of fit (AGFI), Normed fit Index (NFI), Tucker-Lewis Index (TLI), Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA), Average variance extracted

Table 2
Confirmatory Factor Analysis

Construct	Item	Standard loading	Cronbach's alpha value	Composite reliability	AVE
Promotions	***16 items***		**.950**	**.92**	**.89**
Advertising	PA1	.875	.975	.80	0.894
	PA2	.903			
	PA3	.893			
	PA4	.902			
	PA5	.895			
Sales Promotions	SP1	.905	.970	.83	0.851
	SP2	.911			
	SP3	.857			
	SP4	.884			
	SP5	.882			
Public relations	PR1	.844	.961	.75	0.888
	PR2	.843			
	PR3	.866			
Personal selling	PS1	.897	.965	.75	0.895
	PS2	.881			
	PS3	.908			
Meager Information	***9 items***		***.861***	**.82**	***0.64***
Incomplete information	II1	.776	.874	.72	0.762
	II2	.750			
	II3	.817			
	II4	.716			
	II5	.699			
	II6	.809			
Information inaccuracy	IA1	.689	.703	.80	0.771
	IA2	.866			
	IA3	.749			
Consumer behavior	***13 items***		***.914***	***.89***	***0.71***
TM inquiry	TMI1	.736	.826	.77	0.771
	TMI2	.734			
	TMI3	.746			
	TMI4	.828			
	TMI5	.839			
	TMI6	.850			
	TMI7	.639			
TM Usage	TMU1	.543	.791	.81	0.673
	TMU2	.658			
	TMU3	.753			
	TMU4	.683			
	TMU5	.639			
	TMU6	.743			

AVE = Average Variance Extracted

4. Results

4.1. Demographics

Demographic results in table 3 revealed that more females (60.21%) visit and buy TM. By their gender, females are more inclined to seek more healthcare than males. The results also indicate that adults of all ages, especially those in child-raising age groups, buy TM. About 75% of the study participants had yet to gain a university degree or diploma, which reveals the low levels of education among most TM users. About 78% had used TM for the past five years, indicating that most TM users are often past users. Finally, about 95% of the study participants confirmed exposure to a TM advert or promotion thrice a day. This indicates the rampancy of TM promotions all over the media.

Table 3

Demographic characteristics of respondents

Demographics	Frequency	Percentage (%)
Gender		
1. Males	113	30.79
2. Females	254	60.21
Age		
1. 18-30	81	22.07
2. 31-40	105	28.61
3. 41-50	117	31.88
4. 51-above	64	17.44
Education		
1. Primary	149	40.6
2. High School	127	34.6
3. Diploma	52	14.17
4. Degree	28	7.63
5. Masters'-Above	11	3
For how long the participant used TM		
1. Less than a year	33	9
2. About 3-5 years	47	12.8
3. More than 5 years	287	78.2
Exposure to TM promotions		
1. More than thrice a day	348	94.82
2. Once a day	16	4.36
3. Once a week	3	0.82

4.2. Moderation

Moderation was done using Andrew F. Hayes process macro 3.5 (model 1) at bootstrap sample 5000. The study assessed the relationship between promotions and consumer behaviour

(H1), then the relationship between meagre information and consumer behaviour (H2) and finally, the moderating role of meagre information on the relationship between promotions and consumer behaviours (H3).

Model: 1

Y: Consumer behaviours

X: Promotions

W: Meagre Information

Sample Size: 367

Table 4

Model summary

R	R-sq	MSE	F	df1	df2	p
.6504	.4231	.3122	88.7340	3.0000	363.0000	.0000

The results indicate that the regression model is statistically significant (R=0.65, R-sq=0.423, F=88.73, $p < .05$). The model explains up to 42.3% of consumer behaviour. i.e., 42.3% change in consumer behaviour is accounted for by promotions, meagre information, and the interaction term.

Table 5

Model

	coeff	se	t	p	LLCI	ULCI
constant	2.9999	.0335	89.6266	.0000	2.9341	3.0657
Promo	.3376	.0302	11.1788	.0000	.2782	.3970
MI	-.1819	.0417	-4.3639	.0000	-.2638	-.0999
Int_1	.0815	.0318	2.5653	.0107	.0190	.1440

From the model shown in table 5, both promotions and meagre information are significant predictors of consumer behaviours ($p < .05$). The findings reveal a positive and significant relationship between promotions and consumer behaviour ($\beta = .3376$, $t = 11.1788$, $p < .001$) supporting H1. This means a positive change in promotions is associated with a positive change in the consumer usage behaviours of TM users. Likewise, a negative and significant relationship between meagre information and consumer behaviour ($\beta = -.1819$, t =

-4.36, p < .001) supports H2. This means the more meagre or inaccurate the TM information gets; the more likely people would use TM.

From the moderation analysis, the interaction between TM promotions and meagre information on consumer behaviour is positive and statistically significant (p < .05), supporting H3. This implies that meagre information positively moderates the relationship between TM promotions and TM consumer behaviours. i.e. meagre information amplifies or strengthens this relationship.

Table 6

Product terms key

Int_1: Promotions x MI

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0105	6.5808	1.0000	363.0000	.0107

Focal prediction: Promotions (X)

Mod var: MI (W)

The unconditional interaction was tested to show the change in R-square due to the interaction (x*w), and it was also significant (p = 0.107), R2-chng = 0.0105. So, the interaction significantly impacts the endogenous variable.

Johnson-Neymar intervals and simple slopes analysis

Table 7

Conditional effects of the focal predictor at values of the moderator(s)

MI	Effect	se	t	p	LLCI	ULCI
-.8572	.2677	.0412	6.4950	.0000	.1866	.3487
.0000	.3376	.0302	11.1788	.0000	.2782	.3970
.8572	.4075	.0401	10.1572	.0000	.3286	.4863

At the lower level of the moderator, i.e. as meagre information decreases, the effect size decreases. However, as meagre information increases, its effect on consumer behaviours increases. Note: At the average level of meagre information, i.e. .0000, the effect is positive (.3376) on consumer behaviour. The effects are statistically significant at all levels (p= .000).

Moderator value(s) defining Johnson-Neyman significance region(s):

Value	% below	% above
-2.2503	.2725	99.7275

Table 8

Conditional effect of focal predictor at values of the moderator

MI	Effect	se	t	p	LLCI	ULCI
-2.4782	.1356	.0851	1.5927	.1121	-.0318	.3029
-2.2907	.1508	.0796	1.8958	.0588	-.0056	.3073
-2.2503	.1541	.0784	1.9665	.0500	.0000	.3083
-2.1032	.1661	.0741	2.2423	.0255	.0204	.3118
-1.9157	.1814	.0687	2.6411	.0086	.0463	.3165
-1.7282	.1967	.0634	3.1029	.0021	.0720	.3213
-1.5407	.2120	.0582	3.6410	.0003	.0975	.3265
-1.3532	.2273	.0532	4.2707	.0000	.1226	.3319
-1.1657	.2425	.0484	5.0087	.0000	.1473	.3378
-.9782	.2578	.0439	5.8700	.0000	.1715	.3442
-.7907	.2731	.0398	6.8611	.0000	.1948	.3514
-.6032	.2884	.0362	7.9657	.0000	.2172	.3596
-.4157	.3037	.0333	9.1229	.0000	.2382	.3691
-.2282	.3190	.0312	10.2079	.0000	.2575	.3804
-.0407	.3343	.0303	11.0459	.0000	.2747	.3938
.1468	.3495	.0304	11.4866	.0000	.2897	.4094
.3343	.3648	.0317	11.4949	.0000	.3024	.4272
.5218	.3801	.0341	11.1624	.0000	.3131	.4471
.7093	.3954	.0372	10.6325	.0000	.3223	.4685
.8968	.4107	.0410	10.0279	.0000	.3301	.4912
1.0843	.4260	.0452	9.4252	.0000	.3371	.5148
1.2718	.4413	.0498	8.8626	.0000	.3433	.5392

When meagre information is increased, there comes the point or level at which the impact of TM promotions on consumer behaviours will be significant. For example, in table 8, when meagre information is increased to -2.2503, the effect of promotions on consumer behaviour will be moderated. If further reduced to -2.2907, it will cease to be significant.

Figure 1

Virtualization of the interaction term

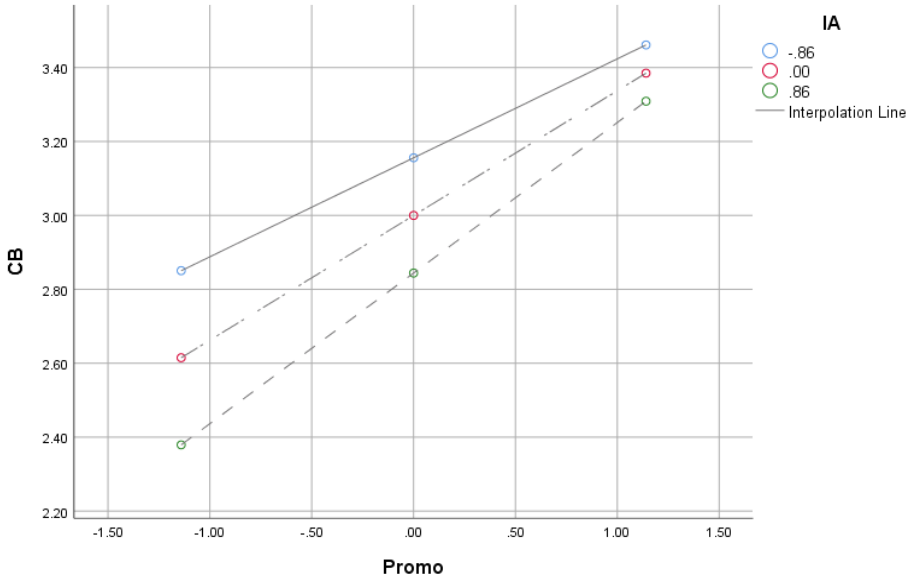

Figure 1 indicates the various levels of interactions. That is, at higher meagre information, the gradient is much steeper. This means that the effect of promotions on consumer behaviours is much more substantial at higher meagre information. In other words, meagre information amplifies the relationship between TM promotions and consumer behaviour.

5. Discussion

There are several underlying reasons for TM usage in Central Uganda, including being female, having low levels of education, and having used TM in the past. Haskell et al. (2011) posit that females are more invested in healthcare than males because of their gender and healthcare needs. According to Mothupi (2014), females are the majority of users of TM because of their caregiving role, especially in Africa. Likewise, frequent users of TM gain experience and confidence in using TM as long as they continually draw benefits from it. If a particular TM worked on solving the consumer's previous problems, they form a positive attitude and are likelier to continue using TM. Some consumers admittedly use the same drug to cure other ailments different from what it fixed previously.

The study revealed a positive and significant relationship between TM promotions and consumer usage behaviour. This finding implies that as THPs continuously promote their medications using various promotional strategies, they constantly create public awareness, influencing consumer usage. TM promotions are perceived beneficial because they; (1) encourage TM users to plant the various advertised herbs in their compounds, (2) encourage users to use the known TM that could be revealed in the promotions (in case it grows in their neighbourhoods), and (3) visit some of the advertising THPs for those that may not know the herbs or cannot have the complete combinations as directed in the promotions. Additionally, TM promotions ignite search behaviours among TM users for more information among friends and families about the advertised brands. Most TM users admitted that they are likely to search for more information after being exposed to a promotion.

The association between meagre information and TM consumer usage behaviours was significantly negative. This finding suggests that the more biased, vague, misleading, and abstract TM information becomes, the more consumers will likely use it. This finding suggests that when consumers are told partial truths such as ‘TM has no side effects’, they develop relief tendencies and confidence to use it. It can be noted that most THPs hardly talk of any side

effects, yet others would insist that TM has no side effects. The less information the THPs share, the more likely the TM users grow a preference for it and would gladly use or buy it. Most promoting THPs make exaggerated claims of TM benefits that are unverifiable and not thoroughly researched. They often use rhetorical communication and make false guarantees to persuade the listeners. For example, THPs deploy testimonies by people who claim to have been healed by the practitioners. The motivation is usually to create legitimacy and credibility and instill confidence in prospective customers.

From the findings, most TM users in Central Uganda need to be more educated, which could increase their vulnerability to misleading TM information. Through TM promotions, THPs exploit the consumers' ignorance and continually share false and misleading information about non-toxicity. According to the attribution theory, also called the 'naïve psychology', a consumer could attribute the message claim in an advert to either the advertiser's desire to sell the product or to the actual characteristics of the product (Settle & Golden, 1974). In the case of TM, most TM users could likely attribute the promotions to actual product characteristics because of the vagueness in the presentation of TM information.

The TM market has often been characterised by scant information, and many users readily take TM without bothering about any crucial information. Currently, most TM products are sold with barely any details of indications, contraindications, expiry dates, special warnings, special precautions for use, possible interaction effects, etc. However, since most TM users have long-formed perceptions that TM has no dosage and no side effects or toxins, they often do not expect THPs to communicate this information before giving them treatments. Additionally, some TM users are still determining whether or not they get a precise diagnosis. Interestingly, some even argued that these THPs use psychology and God-given divine power to diagnose. For this, they only expect a THP to scientifically interpret and communicate the clinical results after treating them. Finally, many TM users would not bother whether TM has government seals to show approval. Nevertheless, the regulating authority has left the market unattended, and anyone can join the trade minus any approvals or clearances.

6. Conclusion and implications

Undoubtedly, TM usage among Ugandans will certainly continue to increase. Therefore, TM consumers, THPs and policymakers must understand the meagre information that underlay this market. It is also imperative for all stakeholders to especially note the moderating effects of meagre information in the relationship between promotions and

consumers' usage behaviour. Unfortunately, the gaps concerning TM promotions still need to be answered, particularly for the illiterate masses. From the findings, it can be anticipated that Ugandans make ill-informed decisions to take TM instead of going to hospitals because of the highly commercialized and promoted TM. It suffices to note that most TM users are poor and desperate due to a flawed healthcare system in the country and incapacitated to verify any messages they get exposed to. The controversies are further compounded by TM's promotional discourses, which are psychologically coercing, misinforming and cunning. So, desperation, illiteracy and naivety prey many TM users on deceitful promotions.

The Government should mandate that consumers are exposed to fair and balanced TM information concerning their illnesses, side effects and available treatments. In addition, the Ugandan National Drug Authority (NDA) needs to streamline information disclosure to TM consumers, contributing to the imperfect information in this highly competitive market. Finally, concurrent with efforts to create quality products that are both safe and effective, the Ugandan Government must formulate standards, policies and regulations governing the production and use of TM. These are necessary to promote and maintain good practice, at least among the appropriately educated THPs, for the benefit of the population. The government should make efforts such as licensing and certifying all THPs. They are also challenged to provide ideal regulatory frameworks to ensure that THPs conform to the required safety, quality, and efficacy standards. In a related vein, the concerned regulatory bodies, such as the NDA and Uganda Communications Commission (UCC), should be charged with regulating TM media communications to prevent the uneducated exaggeration of safety issues.

Authors' contribution

This paper is part of Sarah Nabachwa's PhD thesis, which was written under the supervision of Professor Nixon Kamukama.

Acknowledgements

The authors wish to thank the secretariat of the Ugandan National Council for Traditional Healers and Herbalists' Association (NACOTHA), the Community Development Officers at the district levels in which this study was conducted and the Traditional Health Practitioners

who acted as gatekeepers to access the TM users. The authors also thank the African Development Bank (MUST Heist ADfB project) for funding the PhD study.

Ethical clearances

The Mbarara University of Science and Technology Research Ethics Committee cleared the study. However, further approval was sought from the Uganda National Council for Science and Technology (UNCST).

Conflict of interest

The authors declare no conflict of interest

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