

Wildlife Tourist Consumption in Sabah Malaysia: A SEM Path Model Approach

(Full Paper)

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ABSTRACT

This study applies Animal Encounter Theory, Experience Theory, Biodiversity Hotspots Theory, Involvement Theory, the Theory of Planned Behavior, and User-Gratification Theory. It develops a behavioral Tourism Wildlife Behavior Path Model. This path model shows Sabah Malaysia's wildlife destination tourist experiences, and its in-situ tourist activities, do evoke a measurable positive change in the tourist's overall satisfaction level. It also offers management and workers at Sabah's wildlife destinations insight that may be beneficial in developing both wildlife and conservation servicing, along with other educational tourist information perspectives. These may also induce lasting tourist memories, and hopefully generate a lasting tourist loyalty.

Keywords: Sustainable tourism, destination experience, satisfaction, conservation, tourism wildlife behavior.

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INTRODUCTION

Considerable research on the growth and the size of wildlife tourism exists (Barnes et al., 1992; Amante-Helwey, 1996; Barnes, 1996; Roes et al., 1997; Newsome & Rodger, 2013). However, where tourists (domestic or international) pursue wildlife tourism experiences in Sabah, Malaysia there is scant destination information.

Malaysia's Sabah state at the NE of Borneo Island and is bordered by the Celebes Sea, South China Sea, and Sulu Sea. Since 1995, Sabah has developed into a premier tourism destination. Its thirteen diverse sea and land biodiversity attractions offer major wildlife-based tourism destination options and adventures to tourists visiting from across the globe (Sabah Wildlife Department, 2008).

Hence, this study investigates tourist preferences when visiting the protected, thirteen natural vegetation areas in Sabah, Malaysia. It asks the following research question:

'do Sabah's consumptive wildlife-based (experiences and activities) adventures evoke measureable, overall satisfaction changes for the tourist?'

It deploys a theory-supported survey, and it engages a quantitative structural path model approach to elucidate pathways towards overall wildlife destination satisfaction in Sabah Malaysia.

THEORETICAL FRAMEWORK

The themes of wildlife tourism are captured in this study through its data collection items. These build against a combination of the following theoretical approaches: (1) Experience Theory, (2) Animal Encounter Theory, (3) Biodiversity Hotspots Theory, (4) Involvement Theory, (5) Theory of Planned Behavior (integrating reasoned action), and (6) Users and Gratification Theory.

Experience Theory and Animal Encounter Theory set the theoretical framework for animal encounters as a strength level of wildlife experiences. These encounters at a destination may offer sustainable and conservation considerations for participating tourists, the stakeholder, the animal, and the whole tourism industry. Experience Theory allows participating tourists to consider their chosen specific wildlife attraction/activity as a specific experience. Biodiversity Hotspots Theory considers the rich biodiversity within globally-threatened habitats, focusing on their key endemic species. Here, a sustainable (and marketable) wildlife tourism product, that is 'wildlife-friendly,' is supported by the Biodiversity Hotspots Theory.

Involvement Theory captures the attitudinal motives of time, cost, and energy required by the tourist in choosing their wildlife destination and activities. It also defines the tourist's degree of emotional reasoning, feelings, and logic when choosing their wildlife destination's activities and experiences. The above (1) to (4) theories all help build the wildlife and environmental framework against which this study's tourist destination questionnaire items are framed.

A consumptive acquisition process is then built through the stimulation aspects of interest acquired when the tourist participates in such engaging experiences and activities. This consumptive behavior is displayed at wildlife tourism

destinations. It is supported by the Involvement Theory (Havitz & Dimanche, 1999; Gursoy & Gavcar, 2003; Pearce & Kang 2009). Involvement builds direct experiences as an internal, motivated, behavioral-value commitment (Hamilton & Tee, 2015b). This consumptive acquisition process builds a simulation of interest - acquired through participation in engaging activities and experiences. Ratchford and Vaughn (1989) observe involvement helps tourists develop certain opinions that in-turn likely affect their behavior. Animal Encounter Theory, Experience Theory, Biodiversity Hotspots Theory, and Involvement Theory all help build the wildlife and environmental framework against which this study's tourist destination questionnaire items are framed.

The tourist's relations, beliefs and behavior link through Involvement Theory into the Theory of Planned Behavior (Aijen, 1991) - where the tourist applies their reasoned action. Here, a heightened involvement intention (motive) leads the tourist to consume both experiences and activities, and so acquire a new (satisfying) perception of the destination and its wildlife (Fodness & Murray, 1997; Vogt & Anderick, 2003). Thus, the Users (tourists) and Gratifications (reflective behavioral outcomes) Theory (Katz et al., 1973) applies to post-event tourist satisfaction. It also applies when the tourist assesses if a sufficient personal behavioral change has also engendered (1) a sense of trust in the destination's offerings, and (2) a sense of loyalty towards this destination offerings.

Further, when a tourist chooses to come to a wildlife destination, they likely come with a pre-conceived attitude, with a set of pre-conceived norms, and with a suitable behavioral control mechanism. A tourist's expectations regarding their forthcoming experiences and activities then extends into a participation, or user phase. If this participation is deemed of value, then a tourist's participation (user) phase may extend through to an overall satisfaction (gratification) phase (Hamilton & Tee, 2015a; 2015b).

The Users and Gratifications Theory approach also sees tourists within the destination and its wildlife habitat intentionally choosing an aspect of this environment that over their time at the destination likely leads to a consumptive assessment concerning their wildlife knowledge and determinants. This also creates a sense of trust in the tourist's conservation memories and recollection views. It may also lead to a reflective perception around a degree of loyalty (or ongoing respect for) towards this wildlife environment, and all may also culminate into a reflective overall net satisfaction perception about the wildlife destination. Thus, a planned behavior and involvement approach is adopted by this study. This is illustrated in Figure 1 as the proposed wildlife tourism behavior framework for the study.

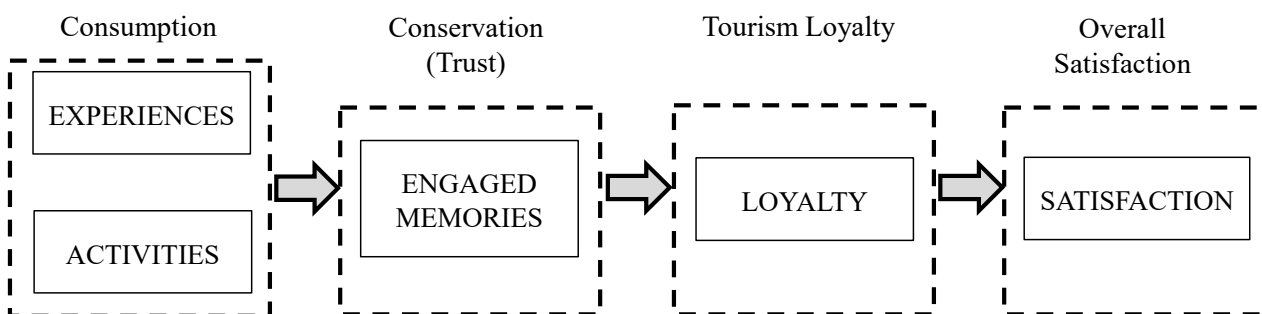


Figure 1: Proposed Tourism Wildlife Behavior Framework.

TOURIST WILDLIFE BEHAVIOR

The initial destination drawcard constructs (activities and experience) supporting a tourist participation are likely consumptive (Coghlan & Prideaux, 2009). Hence, a destination likely needs to provide activities, wildlife species, environmental attributes, and behavioral opportunities that facilitate a tourist preferencing towards the wildlife tourism context (Newsome et al., 2004). Such responses should be physical, as well as behavioral (Kellert, 1996; Plous, 1993; Eddy et al. 2001; Tremblay, 2002).

Table 1 presents key tourist engagement characteristics. These are primarily experiential and they are also likely destination-specific. For example, in Sabah, Malaysia, tourists are exposed to protected wildlife conservation programs. Here, they may be offered a variety of protected species movements, environmental sensory walks, endangered animal behaviors, and feeding stations - as well as education! This controlled-environment reduces habitat damage, promotes survival of endangered species, and promotes conservation among tourists (Syamlal, 2002). It also reduces poaching, and other destructive human activities (SWD, 2010).

In studies of the conservation of wildlife species, a key determinant is understanding what creates overall tourist satisfaction. A tourist who actively experiences positive wildlife encounters, likely shares such destination experiences, and may also revisit. Over-time this increases the awareness of wildlife and helps build long-term global conservation values towards species (Shackley, 1996; Moscardo & Saltzer, 2004; Newsome et al. 2004; Higginbottom, 2004). Thus, from the above discussion, this study proposes the Tourist Wildlife Behavior model shown in Figure 2.

Epistemology

Primarily, this research examines the interaction between the respondent and the setting (destination), and how the wildlife-based experiences characterize such interaction. Hence, constructionism is a suitable epistemology for this research. Constructivism examines how tourists construct different meaning in different ways in relation to the same studied phenomena (Crotty, 1998). It relates objects or events viewed by a respondent and delivers study meaning (Rubin & Rubin, 2005).

Table 1: Wildlife Tourism Characteristics (Saikim, 2019).

CHARACTERISTICS	REFERENCES
Seeing wildlife in natural environment	Moscardo & Saltzer (2004), Duffus & Dearden (1993), Schanzel & McIntosh (2000), Moscardo et al. (2001)
Wildlife behaving naturally	Moscardo & Saltzer (2004)
Rare and unique wildlife	Moscardo & Saltzer (2004), Reynolds & Braithwaite (2001), Shackley (1996)
Large variety of wildlife	Moscardo & Saltzer (2004), Higginbottom (2004), Hammit et al. (1993), Moscardo et al. (2001)
Easily seen wildlife	Moscardo & Saltzer (2004)
Presence of infants	Schanzel & McIntosh (2000)
Human-like	Tremblay (2002), Plous (1993), Eddy et al. (2001), Moscardo et al. (2001)
Large	Shackley (1996), Davies et al. (1997), Johnston (1998), Sagan & Marguils (1993), Newsome et al. (2004)
Popularity of the species	Reynolds & Braithwaite (2001)
Aesthetic appeals	Tremblay (2002), Kellert (1996), Newsome et al. (2004)

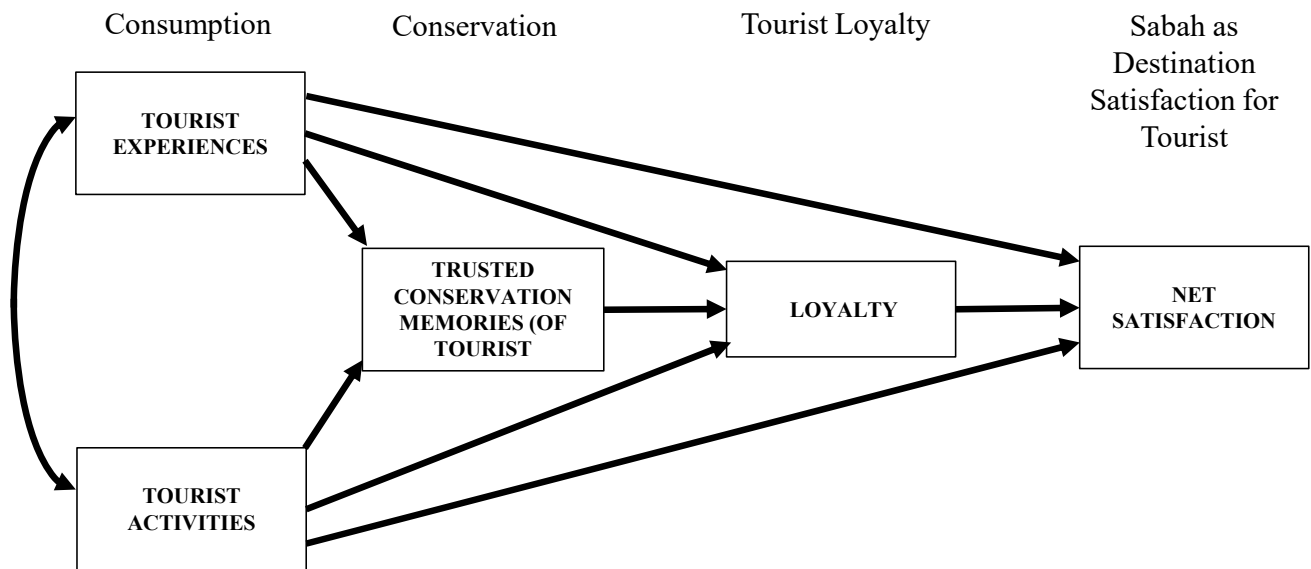


Figure 2: Proposed Tourist Wildlife Behavior Model Framework.

METHODOLOGY

Study Boundaries

The capture of tourist respondents regarding their wilderness/wildlife experiences is limited to visitors undertaking wildlife-based tours of Sabah, Malaysia. Data capture occurs over a five month period and so is time dependent (Blaxter et al., 2002). For cost purposes, this study is conducted at the Kota Kinabalu International Airport (KKIA) (Blaxter et al., 2002). This convenience sample approach depends upon the availability of tourists, access before international flight departures, and the airport’s co-operation (Blaxter et al., 2002; DePoy & Gitlin, 1998). Surveying experience is another practical consideration (Blaxter et al., 2002). Valuable comparative insights towards the selection of methodology, and the above boundary elements, are available in a prior local Sukau Village case study (Fletcher, 2009).

Research Population

A research population can be represented by a well-defined collection of components (Arber, 2001; DePoy & Gitlin, 1998). These are that the tourist (1) has attended and completed a wildlife-based adventure in Sabah, Malaysia, and (2) has likely acquired a degree of satisfaction from this wilderness experience. Four highly-trained, third-year undergraduate students collected KKIA tourist survey responses across various genders, ages and nationalities. The survey was conducted whilst tourists were waiting for their international departure flight. Survey completion took around 10 minutes. A focus group of six, and a small pilot study of 20 Sabah wildlife tourists, helped refine this study's sequential exploratory strategy and items selected (Cresswell, 2003). Departing tourists provided six hundred and forty six (646) valid, self-administered questionnaire data sets (Sarantakos, 1993; Bradburn et al., 2003a; 2003b). The varying levels of literacy, and the language skills among the study participants, remained a limitation to this English only survey method (Davies, 1994), but English remained the most widely used language for those tourists departing KKIA.

Research Coverage

Survey triangulation (Blaxter et al., 2002; DePoy & Gitlin, 1998) involved some 'face-to-face' and voluntary, brief interviews to obtain comprehensive views on some key perceptions provided by the tourist respondents (Hawe et al., 1991; Blaxter et al., 2002). Thus, a more detailed understanding of tourist's wildlife/wilderness experience was achieved (DePoy & Gitlin, 1998).

This study's survey areas include: (1) demographics (asked at the end of the questionnaire) (Bradburn et al., 2003a; 2004b) - and covering: gender, educational qualifications, work status, current country of residence, year of birth (Bradburn et al. (2003a; 2003b), and country of residence; (2) trip characteristics including: times visited Sabah; individual or group travel; how know about Sabah wildlife; travel mode. The Sabah Tourism Board Visitor Survey (STB, 2010) helped develop these questions; (3) behavioral motivations around expectations and activities/attractions (Matlin, 2004) aimed to meet the needs of tourists and to enhance their satisfaction (Graefe et al., 2001); (4) wildlife-based perceptions of experiences, activities/attractions; (5) satisfaction with wildlife-based destination tours (Ragheb & Tate, 1993; Tribe & Snaith, 1998); (6) conservation perspectives as: ecotourism, awareness around the environment, maintaining sustainability, education, and conservation-conscious (Taylor & Baker, 1994; Bolton & Drew, 1991; Tian-Cole & Crompton, 2003); (7) intention to re-visit - important when assessing competitive edge (Parasuraman, 1997); and (8) consumer loyalty as indicative of an overall consumer satisfaction (Petrick, 2002).

DATA ANALYSIS

Demographic analysis

Most tourists who visited Sabah expect to see wildlife. This study shows these visitation reasons include seeing the rainforest (12%), its endemic wildlife (43%), along with its diversity of animals (16%) and seeing an abundance of animals (21%). Another lesser expectation sought is experiencing traditional culture (7%). On average, tourists rated Sabah's wildlife destinations as value-for-money (41%), and as offering a high quality-of-service (46%).

Expectations are generally met during the tourist's stay in Sabah. Here, 39% of tourists perceived they saw more than expected, 34% indicated expectations were met, and 19% noted Sabah exceeded their expectations.

Kinabatangan River (19%) and Danum Valley Conservation Area (17%) are the survey respondents most popular Sabah wildlife destinations – indicating a high wildlife destination imperative by tourists visiting through KKIA. Tourists perceive preservation and conservation (92), scenery (88%), learning (90%), and 'awe-and-wonder' (71%) as key wildlife destination drivers. This indicates conservation should be promoted by Sabah wildlife destinations.

One negative is when tourists' fail to see the wildlife they expect (90%). Other negatives include occasional: inexperience tour guides (66%), bad encounters with insects/leeches (67%), and lack of time at the wildlife destination (79%). Thus, Sabah likely needs to improve its tourist support servicing aspects, and should aim to negate any poor at-destination, in-situ experiences and/or activities.

Most tourists are aged 25-44 years. This age group is most aware of, and most interested in the wildlife species - particularly endangered species - including the orang utans (18%) (n = 113) and the elephants (10%) (n = 66).

Satisfaction with the wildlife destination is broad and complex. It incorporates 13 measurements including: vegetation condition, species diversity, sign-posting, facilities, information centres, staff hospitality, safety measures, species availability, accommodation condition, scenery, road condition, food and convenient business hours. All 13 items hover around a 96% satisfaction level. A single final overall satisfaction question offered the generalized tourism opinion of 'net satisfaction'. This was enlisted in the development of Figure 3.

Quantitative Analysis

Frequencies, average, medians and histograms summarized data and exposed patterns. Pearson's chi square showed significant relations of wildlife viewing types against other variables. Most questionnaire item responses engaged a five point (lowest importance = 1 to highest importance = 5) Likert scale approach. Here non-parametric tests and Mann-Whitney Tests

determined any significant differences against different types of wildlife viewing (Quinn & Keough, 2002). Other questions required factor reduction. This factor reduction approach engaged a varimax orthogonal rotation and a principal components approach to maximize the dispersion of factor item loadings within each construct - whilst assuming all constructs to be independent (Field, 2005). Here, Kaiser-Meyer-Olkin measure of sampling adequacy indicates suitable compactness of the relative correlations (Field, 2005), Cronbach's alpha 0.7 - 0.9) for each construct shows strong internal consistency across the embedded items, and residuals (< 0.05) show compact constructs existed across the Tourist Wildlife Behavior Model (Hair et al. 2010).

Table 2 summarizes the SPSS/AMOS 23.0 path modelling constructs and their final item measures. All measures indicate solid questionnaire response spreads, strong to very strong construct item fits, and solid factor/construct representations (Hair et al. 2010).

Table 2: Construct/loadings for tourists visiting Sabah, Malaysia, wildlife destinations.

CONSTRUCT & MEASUREMENT ITEMS (all items 1=lowest importance, 5=highest)	ITEM LOAD	MEAN	STD DEV	CRONBACH ALPHA	AVE
CONSUMPTIVE EXPERIENCES		3.91	0.83	0.95	0.86
well connected with the (uniques) wildlife	0.930				
adventurous lifestyle (exp) due to wildlife	0.918				
Good tourism facilities and infrastructure	0.908				
CONSUMPTIVE ACTIVITIES		3.83	0.77	0.92	0.75
Nature interpretation	0.930				
Touched wildlife	0.919				
Seeing wildlife in natural environs	0.879				
First time with unique animal in real life	0.720				
TRUSTED CONSERVATION MEMORIES		3.96	0.69	0.73	0.48
Memorable encountered with animals	0.768				
Activities create (environmental) awareness	0.754				
Nature interpretation instills wildlife knowledge	0.544				
LOYALTY (ACQUIRED)		3.87	0.78	0.95	0.83
Will definitely come again	0.934				
Suggest to families and relatives	0.911				
Promote in website/blog/media social	0.905				
Attached as volunteers	0.887				
NET(ACQUIRED) SATISFACTION (1 item)		3.72	0.78		

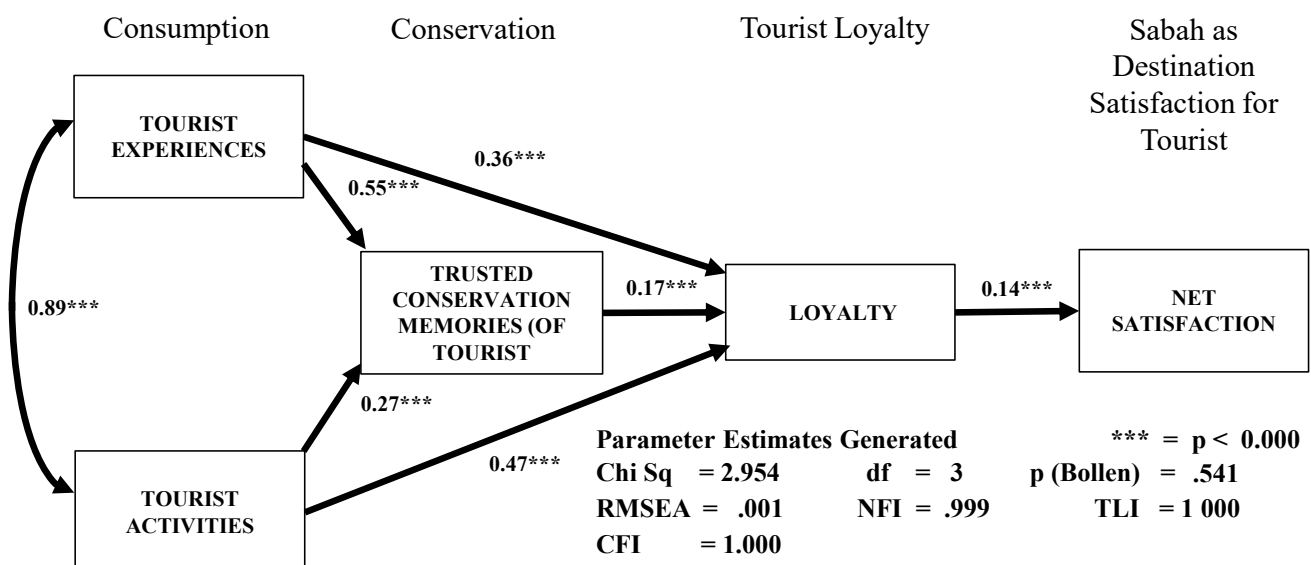


Figure 3: Tourism Wildlife Behavior Path Model.

The Figure 3 AMOS 23.0 path model developed from Table 2 for the 646 tourist cases delivers an excellent fit model ($\chi^2/df = 1.0$, $p(\text{Bollen-stine}) > 0.541$, $RMSEA = 0.001$, $NFI = 0.999$, $TLI = 1.000$, $CFI = 1.000$), with all pathways very highly significant (<0.001). No further paths can be removed, and no alternative models can be generated. The tourist's overall net satisfaction measure is included as a single item as it represents an important Sabah wildlife tourism driver. If this net satisfaction construct is removed, an excellent fit saturated model still exists – again supporting the validity of the Figure 3 path model structure.

DISCUSSION

With the two highly correlated independent constructs and the single item net satisfaction measure each being further developed, Figure 3 model path improvements may be exposed. For example the construct 'trusted conservation emotions' is currently not delivering significant paths in the Figure 3 path model, yet is should work conjointly beside the trusted conservation memories construct, and so deliver a stronger Figure 3 stage 2 conservation memories intermediaries block. Revisiting, and improving these constructs may be a useful model redevelopment in the future.

Figure 3's standardized total effects (Table 3) of the tourist's perceptions of their consumptive wildlife event experience and activities shows their perceived net effects onto each downstream construct. These downstream constructs (tourist's trusted conservation memories, tourist's loyalty, and tourist's overall satisfaction with the wildlife destination event) show the wildlife destination event strongly influences the tourist's conservation memories as well their loyalty, and these reflective measures then exert a small contribution towards the tourist's overall net satisfaction (Table 3: 7.4% and 6.4% respectively) towards this reflective wildlife destination tourist perception in Sabah, Malaysia. The paths between experience and activities to net-satisfaction are not significant, and so are not presented in the Figure 3 tourism wildlife behavior path model.

Wildlife destination consumptive experiences and activities both strongly influence tourist loyalty (Table 3). Hence, Sabah's wildlife tourism destinations should focus on presenting tourists with unique and educative information that is focused on instilling behavioral and lasting memories of the wildlife destination. This approach may encourage revisits by loyal tourists. These destinations should also focus on offering additional event, historical, sustainable, and/or environmentally-sensitive options that display a likely appeal to the tourist. This helps create an ongoing sense of deepened tourist loyalty towards Sabah and towards its sustainable wildlife destination environments and habitats.

Table 3: Standardized Total Effects of Constructs onto Dependent Construct (Acquired Satisfaction) for those visiting Sabah, Malaysia (all respondents).

CONSTRUCTS (FIGURE 2)	WILDLIFE DESTINATION CONSUMPTIVE EXPERIENCES	WILDLIFE DESTINATION CONSUMPTIVE ACTIVITIES	TRUSTED CONSERVATION MEMORIES	LOYALTY
TRUSTED CONSERVATION MEMORIES	0.27	0.55		
LOYALTY	0.52	0.45	0.17	
NET(ACQUIRED) OVERALL SATISFACTION	0.07	0.06	0.02	0.14

As the tourist's reflective overall satisfaction decision only loosely relates to their wildlife experiences and activities (Table 3), other supporting factors obviously interplay. These factors lay beyond the scope of this study. They include such factors as: transport, time, food, accommodation, climate, other external conditions, costs, services, and language support.

IMPLICATIONS OF RESEARCH

Theoretical Implications

This empirical research supports the tourism wildlife behavior path model and also delivers a Bollen-Stine bootstrap validation of the model. It shows that for wildlife tourists, statistically-significant, net-one-directional learning paths do exist, and that all fields of the model are significantly inter-related. This research also confirms that the wildlife tourist primary independent motivational drivers (experiences and activities) for wildlife interaction do reside within the Sabah wildlife destination arena.

This research may be repeated across different nations of the globe - with wildlife tourism preferences towards unique and endemic viewing preferences being predicted as motivators. Using AMOS 25.0 path model approaches, in conjunction with specifically-linked surveys, and with additional outcome constructs flowing across conservation domains, loyalty, and satisfaction as business style outcomes are projected as model drivers.

Further in-depth assessment is possible through survey developments/enhancements to the items currently deployed, and to subsequent SEM approaches that target strong, unidimensional model development options - ones that further segment the model against demographic categories. For example, this research indicates a difference exists between first-time Sabah wildlife tourists, and Sabah revisiting tourists. Hence, sectioned studies may provide further model enlightenment for those managing wildlife tourism operations in Sabah.

This research has the potential to improve Sabah's, and other wildlife destinations', understanding. Here, moves towards focused wildlife tourism studies is projected to be of value to those managing or marketing such environmentally-sensitive destinations. Thus, a more costly, deeper experiential, and activities-based solution may offer further tourist stimulation. Considerations towards further model changes may present further interesting areas of related research – especially where engaged in other national arenas.

Within wildlife tourism areas, and across nations of the globe, there is an imperative to investigate the net-benefits of such wildlife tourism destinations as an alternative to, or a complement to, generating further understanding around the total tourist-provided package of connected and location-specific activities.

Practical Implications

Wildlife tourism operations and/or their marketers) in Sabah, may utilize this study's information, and their own observations, to better design their program experiences and task activities. This study's survey approach elucidates aspects of wildlife tourism believed of most value, and these areas can then frame into future management or marketing packages. Such approaches can result in engaging mixes of tourist learning activities being offered within a specific wildlife destination, and these new approaches can also drive additional knowledge into the wider global tourism market.

Tourism operators and their marketers can use this research approach to help build destination policies related to tourist quality-learning and their how such outcomes may be delivered within their controlled delivery systems. Additional wildlife destination studies tackled by other researchers may capture new construct items along with new sets of refocused outcomes - that may even extend through to governmental policies and area controls.

Wildlife tourism in the natural habitat setting of the endemic species likely differs in its processes to guided tours or zoo-based tours. In at-destination, natural wildlife settings, net learning outcomes are likely higher, and a closeness sensitivity may emerge. This likely brings a degree of tourist-assessed opinion that should be regularly tapped to further support destination and governmental policies, and to expand the tourist's learning options. Policy could then refine to build (1) more engaging wildlife tourism options, and (2) further virtual and tangible experiential wildlife tourism options, and (3) additional activities that build an homeostatic (or ongoing and aligned) connection between the tourist and the endemic wildlife species. Such learning engagement processes likely enhance the tourist's perception of the overall wildlife tourism event.

FUTURE RESEARCH

Measurement Aspects

This study, and its links from previous studies, offers a basic set of literature-based empirical measures that can be developed, and/or extended and/or modified to enhance and expand the knowledge pathways generated within the wildlife tourism field. This path model approach extends relationships between different constructs, and establishes flow paths which may be used by others when setting new and broader strategic wildlife tourism measures and directions. This moves existing research beyond previous studies.

Tourists learn and acquire knowledge differently - especially when exposed to different wildlife environments. Learning and knowledge acquisition is likely age and number of visits related. This may bring a tourist behavioral change that is likely linked to the destination offerings, and/or to their tourist involvement processes. This area offers exciting scope for many future wildlife tourism measurement studies, and for possible associated virtual wildlife tourism application studies.

Theoretical Aspects

At the tourist operations level researchers may consider how to operationalize their uniqueness capacities, and may then consider how these competencies may be better-packaged, developed, and deployed as quickly as possible – possibly incorporating a raft of discovered educative, knowledge transfer, experiential, and activities processes.

This study indicates an overall tourist interactive reeducation process could be offered. This is a behavioral deliverance process. Hence, behavior should be considered for incorporation into across wildlife tourism processes. This then offers further theoretical approaches - possibly based around the Theory of Planned Behavior and Users-Gratification Theory.

Management Aspects

Wildlife tourism researchers may refine our literature supported approach and add, remove or refocus this study's Table 3 measurement items into a more detailed 4 stage Tourism Wildlife Behavior SEM constructs model. This approach likely generates further understanding around the continuum of wildlife tourism connection options that operate within the differing

nations of the globe. It also offers contrasts between nations. Incorporation of mobile technologies into these domains may also open still further new measurements and social media approaches.

CONCLUSION

The research question ‘do Sabah’s consumptive wildlife-based (experiences and activities) adventures evoke measureable, overall satisfaction changes for the tourist?’ is behaviorally answered via the Tourism Wildlife Behavior Path Model. This tourist behavioral perceptions model shows the Sabah wildlife destination experiences and the in-situ activities offered can evoke a strong tourist loyalty, but they only evoke a small joint positive effect on the tourist’s reflective overall satisfaction. This small satisfaction effect is likely due to the many competing satisfaction influences following the above demographic analysis section. Hence in future studies a range of satisfaction measurement items should be included. This can likely deliver an improved Figure 3 model.

In this study, the proposed tourist wildlife behavior model path model framework is partially supported but the two paths proposed between tourist experiences and net satisfaction, and tourist activities and net satisfaction are both found not to be significant at $p < 0.05$. The construct ‘trusted conservation emotions’ is currently not delivering significant paths in the Figure 3 path model. Again, this study’s work may work if the independent constructs, and/or the net satisfaction construct item, are each improved by including further relevant measurement items into one or all of these three constructs.

Today, the tourism industry, at destinations in Sabah Malaysia, is seeking an all-round comprehensive approach that is not only comprehensible, but also one that delivers interpretable (and cost effective) results, and one that focuses towards the future. The Tourism Wildlife Behavior Path Model now provides a framework for the destination tourism industry in Sabah to identify its strengths and/or weaknesses, and to then seek improvement solutions for the experiences and the activities on offer.

Used positively the Tourism Wildlife Behavior Path Model can help frame a more polished servicing, an improved educative perspective within a physical wildlife destination, and a greater tourism loyalty may result. Hence, wildlife tourism parks and their personnel should try to generate both lasting and informative tourist memories. For example, improved connecting infrastructures, better servicing connections, and visit observations well-timed around active wildlife behaviors (like feeding, movement or group connective actions) do add value to activities and experiences and then likely raise the satisfaction levels of outbound wildlife tourists.

REFERENCES

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211.
- Amante-Helwey, V. (1996). Ecotourists’ beliefs and knowledge about dolphins and the development of cetacean ecotourism. *Aquatic Mammals*, 22(2), 131-140.
- Arber, S. (2001). Secondary analysis of survey data 1 D. *Researching Social Life*, 269.
- Barnes, J., Burgess, J. & Pearce, D. (1992). Wildlife tourism. Swanson, T.M. & Barbier, E.B. (Eds), *Economics for the wilds: wildlife, wildlands, diversity and development*, London, UK: Earthscan, 136–151.
- Barnes, J.I. (1996). Economic characteristics of the demand for wildlife-viewing tourism in Botswana. *Development Southern Africa*, 13(3), 377-397.
- Blaxter, L., Hughes, C. & Tight, M. (2001). *How to research*. Buckingham, UK: Open University
- Bolton, R.N. Drew, J.H. (1991). A multistage model of customers’ assessments of service quality and value. *Journal of Consumer Research*, 17(4): 375-384.
- Bradburn, M.J., Clark, T.G., Love, S.B. & Altman, D.G. (2003a). Survival analysis part II: Multivariate data analysis – an introduction to concepts and methods. *British Journal of Cancer*, 89, 431-436.
- Bradburn, M.J., Clark, T.G., Love, S.B. & Altman, D.G. (2003b). Survival analysis part III: Multivariate data analysis – choosing a model and assessing its adequacy and fit. *British Journal of Cancer*, 89, 605–611.
- Coghlan, A. & Prideaux, B. (2008). Encounters with wildlife in Cairns, Australia: Where, what, who...?. *Journal of Ecotourism*, 7(1), 68-76.
- Cresswell, T. (2003). Landscape and the obliteration of practice. Anderson, K. Domosh, M. Pile, S. & Thrift, N. (Eds.), *Handbook of cultural geography*, London, UK: Sage Publications, 269-282.
- Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process*.
- Davies, B. (1994). *Shards of glass: Children reading & writing beyond gendered identities*. Cresskill, NJ: Hampton Press.
- Davies, B. (1997). Constructing and deconstructing masculinities through critical literacy. *Gender and Education*, 9(1), 9-30.
- DePoy, E. & Gitlin, L. (1994). *Introduction to Research*, St Louis, MO: Mosby,
- Duffus, D.A. & Deardon, P. (1993). Recreational use, valuation, and management, of Killer Whales (*Orcinus orca*) on Canada’s Pacific Coast. *Environmental Conservation*, 20(2), 149-156.
- Eddy, J.M., Leve, L. & Fagot, B. (2001). Coercive family processes: A replication and extension of Patterson’s coercion model. *Aggressive Behavior*, 27, 14-25.
- Field, A.P. (2005). Is the meta-analysis of correlation coefficients accurate when population correlations vary? *Psychological Methods*, 10(4), 444.
- Fletcher, C.J. (2009). *Conservation, livelihoods and the role of tourism: a case study of Sukau village in the Lower Kinabatangan District*, (Doctoral dissertation, Lincoln University, Sabah, Malaysia).
- Fodness, D. & Murray, B. (1997). Tourist information search. *Annals of Tourism Research*, 24(3), 503-523.

- Graefe, A.R., Absher, J.D. & Burns, R.C. (2001). Monitoring visitor satisfaction: A comparison of comment cards and more in-depth surveys. Proceedings of 2000 Northeastern Recreation Research Symposium. Gen. Tech. Rep. NE-276. Newtown Square, PA: US Department of Agriculture, Forest Service, Northeastern Research Station, 276, 265-269.
- Gursoy, D. & Gavcar, E. (2003) International Leisure Tourists' Involvement Profile. *Annals of Tourism Research*, 30, 906-926.
- Hair, J.E., Black, W.C., Babin, B.J. & Anderson, R.E. (2010). Multivariate data analysis. London, UK: Pearson International.
- Hamilton, J.R. & Tee, S. (2015a). Engaging technologies-savvy consumers with the internet of things. *In Proceedings of the International Conference on Electronic Business (ICEB)*, Dec 6-20, Hong Kong, China, 15(1), 242-246.
- Hamilton, J.R. & Tee, S. (2015b). Expectations-to-value: connecting customers with business offerings. *International Journal of Internet Marketing and Advertising*, 9(2), 121-140.
- Hammit, W.E., Dulin, J.N. & Wells, G.R. (1993). Determinants of quality wildlife viewing in Great Smoky Mountains National Park. *Wildlife Society Bulletin*, 21(1), 21-30.
- Havitz, M. & Dimanche, F. (1999). Leisure Involvement Revisited: Drive Properties and Paradoxes. *Journal of Leisure Research*. 31:122-149.
- Hawe, D., Taylor, D. & Hampe, G. (1991). Destination Marketing by States. *Journal of Travel Research*, 30(5):11-17.
- Higginbottom, K. (2004). Wildlife tourism: Impacts, management and planning. Gold Coast, Qld: Common Ground Publishing, (Gold Coast: CRC for Sustainable Tourism).
- Johnston, R.J., (1998). Estimating demand for wildlife viewing in zoological parks: An exhibit-specific, time allocation approach. *Human Dimensions in Wildlife*, 3(1), 16-33.
- Katz, E., Blumler, J.G. & Gurevitch, M. (1973/74). Uses and Gratifications Research. *Public Opinion Quarterly*, 37 (4), 509-523.
- Kellert SR. (1996). The value of life. Washington, DC: Island Press.
- Matlin, M.W. (2004). Cognition. Chichester: UK: John Wiley & Sons, Inc.
- Moscardo, G. & Saltzer, R. (2004). Understanding wildlife tourism markets. In *Wildlife Tourism: Impacts, Management and Planning*, Higginbottom, K. (ed), Australia: Cooperative Research Centre for Sustainable Tourism.
- Moscardo, G., Woods, B. & Greenwood, T. (2001). Understanding Visitor Perspectives on Wildlife Tourism. *Wildlife Tourism Research Report Series*, No. 2, Australia: Cooperative Research Centre for Sustainable Tourism.
- Newsome, D. & Rodger, K. (2013). Wildlife tourism. New York, NY: Routledge.
- Newsome, D., Dowling, R. & Moore, S. (2004). Wildlife tourism. Cleveland, UK: Channel View Publications.
- Parasuraman, A., (1997). Reflections on gaining competitive advantage through customer value. *Journal of the Academy of Marketing Science*, 25(2), 154-161.
- Pearce, P. & Moscardo, G. (1998). The role of interpretation in influencing visitor satisfaction: A rainforest case study. In W. Faulkner, C. Tidswell, & D. Weaver (Eds), *Progress in Tourism and Hospitality Research*, 1998, Part 1 (pp. 309-319). Proceedings Eighth Australian Tourism and Hospitality Research Conference, Gold Coast, Qld: Bureau of Tourism Research (Canberra).
- Pearce, P.L., & Kang, M.H. (2009). The effects of prior and recent experience on continuing interest in tourist settings. *Annals of Tourism Research*, 36(2), 172-190.
- Petrick, J.F. (2002). Development of a multi-dimensional scale for measuring the perceived value of a service. *Journal of Leisure Research*, 34(2), 119-134.
- Plous (1993). Psychological mechanisms in the human use of animals. *Journal of Social Issues*, 49, 11- 52.
- Quinn, G.P. & Keough, M.J. (2002). Experimental Design and Data Analysis for Biologists. Cambridge, UK: Cambridge University Press.
- Ragheb, M.G. & Tate, R.L. (1993). A behavior model of leisure participation, based on leisure attitude, motivation and satisfaction. *Leisure Studies*, 12(1), 61-67.
- Ratchford, B. & Vaughn, R. (1989). On the Relationship between Motives and Purchase Decisions: Some Empirical Approaches. Srull T.K. (ed.), *Advances in Consumer Research*, 16, 293-299.
- Reynolds, P.C. & Braithwaite, D. (2001). Towards a conceptual framework for wildlife tourism. *Tourism Management*, 22 (1): 31-42.
- Roes, D., Leader-Williams, N. & Dalal-Clayton, B. (1997). Take only photographs, leave only footprints, *Wildlife and Development Series*, No. 10, London, UK: International Institute for Environment and Development.
- Rubin, H. J. & Rubin, I. (2005). Qualitative interviewing: The art of hearing data. Thousand Oaks, CA: Sage Publications.
- Sabah Wildlife Department (2008) Volunteer Tourism: Theoretical Frameworks and Practical Applications. Benson, A.M (Ed), New York, NY: Routledge.
- Sagan, D. & Margulis, L. (1993). God, Gaia, and biophilia (ch. 11). In Kellert, S.R. & Wilson, E.O (Eds), *The biophilia hypothesis*, Washington, DC: Island Press, 345-364.
- Saikim, F.H.B. (2019). Wildlife viewing preferences of visitors to protected areas in Sabah, Malaysia: Implication for the role of wildlife tourism in conservation, Doctoral dissertation, Cairns, Australia: James Cook University.
- Sarantakos, S. (1993). *Social research*. Victoria, Australia: Macmillian Publishing Australia.
- Schänzel, H.A. & McIntosh, A.J. (2000). An Insight into the Personal and Emotive Context of Wildlife Viewing at the Penguin Place, Otago Peninsula, New Zealand. *Journal of Sustainable Tourism*, 8(1), 36-52.
- Shackley, M.L. (1996). Wildlife tourism. Boston, MA: Cengage Learning EMEA.
- Syamlal, G.S. (2002). Tourism development and its impact on endangered species: A case study of Nilgiri Thar. *Tourism Review*, 57(1/2), 50-52.

- Taylor, S.A. & Baker, T.L. (1994). An assessment of the relationship between service quality and customer satisfaction. *Journal of Retailing*, 70(2), 163-178.
- Tian-Cole, S. & Crompton, J. (2003). A conceptualization of the relationships between service quality and visitor satisfaction, and their links to destination selection. *Leisure Studies*, 22(1), 65-80.
- Tremblay, P. (2002). Tourism wildlife icons: Attractions or marketing symbols? *Proceedings 2002 CAUTHE Conference*, (p. 624). Edith Cowan University Press.
- Tribe, J. & Snaith, T. (1998). From SERVQUAL to HOLSAT: holiday satisfaction in Varadero, Cuba. *Tourism Management*, 19(1), 25-34.
- Vogt, C.A. & Andereck, K.L. (2003). Destination perceptions across a vacation. *Journal of Travel Research*, 41(4), 348-354.