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Jani, Dev

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Kontakt/Contact

ZBW – Leibniz-Informationszentrum Wirtschaft/Leibniz Information Centre for Economics
Düsternbrooker Weg 120
24105 Kiel (Germany)
E-Mail: [rights\[at\]zbw.eu](mailto:rights[at]zbw.eu)
<https://www.zbw.eu/econis-archiv/>

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RESIDENTS' PERCEPTION OF TOURISM IMPACTS AND INVOLVEMENT: A CLUSTER ANALYSIS OF KILIMANJARO RESIDENTS, TANZANIA

Dev Jani¹

ABSTRACT

This study aimed at segmenting residents around Mount Kilimanjaro on the basis of their perception of economic, environmental, and socio-cultural impacts of tourism. A structured questionnaire yielded 160 cases that were clustered and analyzed using non-hierarchical analysis followed by hierarchical cluster analysis. Two clusters were noted to differ with respect to their perceived impacts of tourism. Among the demographic variables, only gender served in differentiating the clusters. The two clusters were observed to differ in terms of economic, political, and social involvement of residents with tourism industry. Residents who are involved in tourism industry are likely to be positive on the impacts of tourism. Both theoretical and managerial implications are derived and discussed.

Keywords: *resident's perception, segments, tourism, impacts, involvement*

INTRODUCTION

Tourism in Africa is a significant sector that contributes nearly 9% of the GDP as well as having enormous potential for further growth (WEC, 2015). With such huge potential, tourism businesses need to follow sustainable development principles to ensure the longevity of benefits being realized for both the current and future generation. Sustainable tourism development requires the inclusion of all stakeholders' perception and their involvement in the planning and development of tourism (Lundberg, 2017). Stakeholder group of particular interest are the residents who are considered to be the rightful owners of the resources in a particular destination. Local residents, by virtue of their residence, are the ones who have been exposed to the effects of tourism over the years (Brida, Osti, & Barquet, 2010) and thus they are in a better position to appraise the impact of tourism in their areas. The residents' perceived impacts of tourism in a destination are generally grouped to reflect the economic, socio-cultural, and environmental dimensions of sustainable tourism development (Andersson, Armbrrecht, & Lundberg, 2016).

Residents' perceptions of tourism impacts have received a substantial research interest over the years. The research can be grouped into causal (Gursoy & Rutherford, 2004; Latkova & Vogt, 2012; Li & Wan, 2013; McGehee & Andereck, 2004; Nunkoo & So, 2015) and grouping studies (Andriotis & Vaughan, 2003; Brida *et al.*, 2010; Ribeiro, do Valle, & Silva, 2013; Schofield, 2011; Sinclair-Maragh, Gursoy, & Vieregge, 2015). The former has an interest in ascertaining the antecedents or the effects of residents' perception while the latter is interested in grouping residents using their perceived impacts of tourism. Due to the fact that communities are not homogeneous, with residents having different perceptions of tourism impacts (Andriotis & Vaughan, 2003; Schofield, 2011) as well as having different stakes, it is argued that identification and grouping of residents into different segments with respect to their perceived impacts of tourism offers more valuable and actionable information to destination planners and managers (Faulkner & Tideswell, 1997; Gursoy, Chi, & Dyer, 2010). As per the stakeholder theory (Mitchell, Agle, & Wood, 1997), different stakeholders or group or individual who can affect or be affected by the tourism industry need to be identified by managers for the purpose of integrating

¹ Dev Jani, Senior Lecturer; Department of Marketing, University of Dar es Salaam Business School, Tanzania (E-mail: dev@udbs.udsm.ac.tz; Mob: +255 717028780) ORCID: 000-0002-3760-6714

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them for the success of the industry. One way of identifying the different groups of stakeholders, particularly residents of a tourism destination is through segmenting them into different groups.

In order for the segments of residents based on their perceived impacts of tourism to be of use, additional grouping variables that are easily identifiable (Kotler, 1999) need to be related with residents' perceptions. The uses of socio-demographic variables have been identified as the likely variables that can be related with residents' perception, with many researchers exploring their utility (Andriotis & Vaughan, 2003; Schofield, 2011). Despite the presence of studies using socio-demographic variables in profiling residents basing on their perceived impacts of tourism, there are conflicting results as some of them indicate such variables to be useful (Brida *et al.*, 2010) while others indicate the variables to be unrelated to residents' perceived impacts of tourism (Andriotis & Vaughan, 2003; Schofield, 2011; Williams & Lawson, 2001). This situation calls for further research. A potential variable that has been shown to offer a more explanatory value on residents' perception is the concept of resident's involvement in the tourism industry (Nunkoo & So, 2015; Sharma, & Dyer, 2009). Segota, Mihalic, and Kuscer (*in press*) observed that highly involved residents in a tourism destination are more likely to have a better perception of tourism than those who are less involved. Furthermore, highly involved residents within the tourism industry are more likely to contribute positively to the sustainability of their destination (Mihalic, 2016). Despite its explanatory potential, the use of resident's involvement in understanding different groups of residents according to their perceptions of tourism impacts have hardly been done. Moreover, the presence of a number of studies that explored and examined the different groups of residents based on their perceived impacts of tourism, studies undertaken in less developed countries, particularly in the sub-Saharan African countries where tourism is still in early stages of development are few (e.g. Sirakaya, Teye, & Sonmez, 2002; Teye, Sonmez, & Sirakaya, 2002). Such a knowledge gap deprives residents' segments of further validation found elsewhere, and limits policy makers and managers in squarely planning for sustainable tourism. The study reported in this paper aimed at identifying the presence of different segments of residents using their perceived impacts of tourism and their involvement in the industry around Mount Kilimanjaro, the highest point in Africa found in Tanzania. Furthermore, the study aimed at exploring the socio-demographic differences among the residents' segments.

LITERATURE REVIEW

Residents' perception of tourism impacts

The importance of understanding residents' perception of tourism impacts for developing a sustainable tourism in a destination has motivated many researchers to embark on researching the antecedents and consequences of residents' perception of tourism impacts (Lundberg, 2017; Ribeiro *et al.*, 2013; Sharpley, 2014). Residents' perceptions of tourism impacts are categorized into economical, socio-cultural, and environmental dimensions reflecting the triple bottom line of sustainable tourism (Andersson *et al.*, 2016; Lundberg, 2017). Furthermore, with the recognition that these three tourism impacts differ in strength and direction for different residents in a destination, they are usually clustered into positive and negative impacts (Schofield, 2011) for the sake of simplicity and for the purpose of reflecting the social exchange theory that is commonly used to explain residents' perception of tourism impacts (Nunkoo, Smith, & Ramkissoon, 2013). Simply, the social exchange theory explains how individuals or a group of individuals engage in exchange: they only engage in exchange if they feel they are obtaining more benefits compared to costs in the exchange. Otherwise they do not engage in the exchange (Easterling, 2004). The economic benefits or positive impacts of tourism relate to the perception of residents to obtain economic gains by participating in tourism. The economic impacts of tourism are anchored onto employment, industry linkages, and business opportunities, with positive and negative inclinations reflecting residents' positive and negative perceptions of economic impacts respectively. The socio-cultural impacts of tourism include local culture, living standards, community pride, and public infrastructure (Latkova & Vogt, 2012). Positive evaluation by residents indicates positive socio-cultural impacts of tourism while negative evaluation of the elements connotes negative perceived impacts of tourism with respect to socio-cultural dimension. Environmental dimension of sustainable tourism as perceived by the residents entails elements like residents' environmental awareness, protection, and conservation of the environment that can be either positive or negative in the eyes of the residents in the destination (Zhang *et al.*, 2013).

Another line of thinking regarding residents' perception of tourism impacts is through the use of the stakeholder theory. Simply, stakeholders refer to any group or individual who can affect or be affected by an organization or an industry (Mitchell *et al.*, 1997). In order for an organization or an industry to succeed, that organization or industry needs to identify the different groups of stakeholders using selected set of salient variables (Mitchell *et al.*, 1997) and thereafter integrate the different groups according to their saliency. Residents of a tourism destination being one among the salient group of stakeholders (Brida, Osti, & Barquet, 2010) who are being affected by tourism activities as well as having a possibility of influencing the success of the industry (Lundberg, 2017; Sharpley, 2014), an understanding of the different sub-groups within the larger group of residents is important (Kibicho, 2008). One of the possible grouping variable that has been shown to relate with residents support for tourism is their perception of tourism impacts (Latkova & Vogt, 2012; Nunkoo, Smith, & Ramkissoon, 2013; Sharpley, 2014). Despite significance of residents perception of tourism impacts being an important variable in understanding residents as a tourism stakeholders, studies using the variable in segmenting residents particularly in the African context where tourism is growing are limited (Kibicho, 2008).

Segmenting residents using perceptions of tourism impacts

The recognition that residents in any destination do not harbor the same perceptions towards tourism impacts (Andriotis & Vaughan, 2003) has led to a plethora of segmentation studies (Brida *et al.*, 2010; Lundberg, 2015; Ribeiro *et al.*, 2013; Sinclair-Maragh *et al.*, 2015). Previous segmentation studies using residents' perception of tourism impacts indicate a common pattern of having an average range of three to five clusters spanning on a positive to negative continuum (Andriotis & Vaughan, 2003; Madrigal, 1995; Sinclair-Maragh *et al.*, 2015). The utility of results from previous segmentation studies can only be practical if the users of such information, including tourism planners and managers can identify the different segments and access them with different strategies (Kotler, 1999). Consequently, the liable identification factors were the socio-demographic variables that have been used by previous researchers (Williamson & Lawson, 2001; Schofield, 2011) to further actuate the use of less easier identifiable segmentation variable like perceptions. Unfortunately, the use of socio-demographic variables in segmenting residents in a destination appears to be of less value due to inconsistent results (Brida *et al.*, 2010). Some researchers have observed that residents' perception of tourism impacts relate to the socio-demographic variables (Almeida-Garcia, Pelaez-Fernandez, Balbuena-Vazquez, & Cortes-Macias, 2016; Brida *et al.*, 2010) while others noted socio-demographic variables to be the least candidate in differentiating the segments (Andriotis & Vaughan, 2003; Williams & Lawson, 2001; Schofield, 2011). A study done by Kibicho (2008) in Kenya which is related to the context of the present study, observed some demographic variables like age, gender, and education to be significantly related to the different groups of residents with different perceptions. Specifically, Kibicho (2008) noted residents with more positive perceptions regarding the impacts of tourism to be young, female, and of higher education. A study done in Malawi (Bwalya-Umar & Mubanga, *in press*) though not capturing different segments of residents noted residents to have a lesser positive perception of the tourism impacts. From such inconsistencies from similar African countries necessitate the need for further research grouping residents basing on their perception of tourism impacts as well as relating the groups demographically. In complementing and extending the knowledge on different groups of residents in a destination, this study tested the following hypotheses in Kilimanjaro, a lesser researched area:

H₁: There is a presence of significantly different segments of residents based on their perceived impacts of tourism.

H₂: The residents' segments based on their perceived impacts of tourism significantly differ with their socio-demographic characteristics.

Residents' involvement in tourism

Involving the residents in all aspects of tourism in a destination is a crucial element in sustainable tourism development (Scheyvens & Biddulph, 2017; Tosun, 1999). Residents' involvement in tourism appears to be used interchangeably with engagement (Abdullah *et al.*, 2016), participation (Choi & Murray, 2010; Hung, Sirakaya-

Turk, & Ingram, 2011; Su & Wall, 2014), integration (Mitchell & Reid, 2000), or even empowerment (Scheyvens, 2003). Simply put, this study takes residents' involvement in tourism to entail their participation in the industry in different facets, including political, economical, and social (Faulkner & Tideswell, 1997; Maruyama *et al.*, 2016; Scheyvens, 2003; Sirakaya *et al.*, 2002). In each of the facets, involvement can be perceived to be on a continuum of high to low involvement. For instance, high economic involvement reflects the high participation of the residents in the tourism industry with a large proportion of their income emanating from tourism while low economic involvement lies on the opposite extreme of high economic involvement. Using the dependency theoretical perspective, the literature indicates that the economic dependence on tourism has an influence on residents' perception of tourism impacts (Faulkner & Tideswell, 1997; Madrigal, 1995). On the other hand, there are studies that observed that economic dependency on tourism relates with negative perception of tourism impacts (Liu & Var, 1986; Teye *et al.*, 2002), thus calling for more research on residents' perception of tourism impacts and economic dependency on tourism.

The political dimension of residents' involvement in tourism relates with their participation in planning and decision making in tourism related issues (Choi & Murray, 2010; Zhang *et al.*, 2013). From the power theory (Kayat, 2002), residents who are politically highly involved in the tourism industry are likely to have a relatively positive perception of tourism impacts (Nunkoo & So, 2015). Rasoolimanesh *et al.* (2017), supported by Nunkoo and So (2015), argue that residents' involvement in tourism planning and development process increases their knowledge about tourism and their perception towards tourism in general. Despite the presence of a handful of empirical studies on residents' political involvement in tourism, the evidences presented in these studies are not converging, with some studies indicating involvement to lead into positive perceptions (Choi & Murray, 2010; Kayat, 2002; Nunkoo & So, 2015) while other studies indicate otherwise (Latkova & Vogt, 2012; Maruyama *et al.*, 2016). Political involvement in tourism appears to be related to context. That is to say, in the context of developing countries, political involvement has been observed to follow the top down approach, and the residents' involvement has been observed to be minimal (Tosun, 1999).

Residents' social involvement with tourism, particularly through their direct interaction with tourists appears to be less researched in relation to residents' perception of tourism impacts (Teye *et al.*, 2002; Ward & Berno, 2011). Although interaction with tourists logically relates to residents' perceived impacts of tourism, only few studies have tried to relate residents' social involvement with different segments of residents with respect to their perceived impacts of tourism (e.g. Ribeiro *et al.*, 2013; Teye *et al.*, 2002). Ribeiro *et al.* (2013) for instance, observed residents who directly interact with tourists to have more positive perceptions of tourism impacts compared to those who do not interact with tourists. There are other studies that have obtained results similar to Ribeiro *et al.* (2013), including Andereck *et al.* (2005), and Akis *et al.* (1996). With previous studies indicating economic dependency (Sdrali, Goussia-Rizou, & Kiourtidou, 2015) and social contact with tourists (Bimonte & Punzo, 2016) to elevate positive perception of tourism impacts, then for a developing country like Tanzania, where tourism is an industry that is yet to mature and where the tourists are perceived to be of superior social-economic status, it is logical to assume that residents who interact with tourists are likely to be more positive of the tourism impacts.

Tourism managers and policy makers can further capitalize on the use of residents' perceived impacts of tourism by relating them with different facets of involvement. Kibicho (2008) in using factor-cluster analysis in identifying groups of selected Kenyan residents basing on their perception of their involvement in tourism noted two distinct clusters. Like other previous studies (e.g. Choi & Murray, 2010; Su & Wall, 2014), Kibicho (2008) did not relate residents' involvement in tourism with their perceived impacts of tourism despite the indication of the two concepts to be related (Sharma, & Dyer, 2009). Borrowing from Hung *et al.*, (2011) observation indicating the dominance of research capturing the means and the ends of community participation, there is a need to research different groups of residents basing on their involvement in the tourism industry. Tosun (1999) conceptually indicates local involvement in tourism is likely to relate with residents' perception of tourism impacts, socio-demographic characteristics of the locals, and the characteristics of the tourism industry, albeit such assertion empirical evidence from a typical African developing country is missing. Unlike the few previous studies that tried to understand different groups of residents on their perceived impacts of tourism and their levels of involvement (Chiappa *et al.*, in press; Ribeiro *et al.*, 2013), the current study extends the relationships through the inclusion of political, social, and economic aspects of involvement. The following hypotheses were

proposed and tested in this study:

H₃: different residents' segments based on their perceived impacts of tourism significantly differ in terms of their political levels of involvement in the tourism industry.

H₄: different residents' segments based on their perceived impacts of tourism significantly differ in terms of their levels of direct contact with tourists.

H₅: different residents' segments based on their perceived impacts of tourism significantly differ in terms of their level of economic dependency on the tourism industry.

METHODS

Data collection

Data for this study were collected from residents on the slopes of Mount Kilimanjaro, specifically along the routes used by tourists to climb the mountain. Mount Kilimanjaro, the highest point in Africa (5,895 m above sea level), continue to receive a number of visitors, with the current figure indicating more than 40,000 climbers per year (URT, 2015). The recent upsurge of climbers of the mountain offers a fertile ground to explore residents' perception of tourism as the impacts can be vividly observed within the generation as well as between single generations compared to a destination with a much longer history of tourism. A structured questionnaire with questions adapted from previous studies (Abdollahzadeh & Sharifzadeh, 2014; Andriotis & Vaughan, 2003; Ribeiro *et al.*, 2013; Sharma & Dyer, 2009) was used as a data collection tool. The questions in the questionnaire captured socio-demographic variables, involvement in tourism, and perceived impacts of tourism in the area. For socio-demographic and involvement in tourism, dichotomous and multiple choice questions were used whereby the respondents were requested to select the appropriate category which reflected their characteristics. Questions capturing the perceived impacts of tourism were framed in 5 point Likert scale with 1 standing for strong disagreement, 5 for strong agreement, and 3 for neither agree nor disagree with the statements.

As the study aimed at capturing residents' perception of tourism impacts, only those residents who were geographically closer to tourism industry were considered to be the appropriate population for this study. Thus, only those residents along the climbing routes were considered in this study. The respondents were required to have resided in the area for more than a year, to be aged above 18 years, and to be of sound and sober mind at the time of data collection. A combination of purposive and convenient sampling was used to select the respondents. Residents along the five climbing routes out of the six routes were conveniently approached in their place of residence during the three weeks of data collection (end of June to July, 2016). To facilitate cooperation of the respondents, a research assistant who originated in the area was employed. To avoid the possibility of some respondents being uncomfortable to fill in the questionnaire for several reasons, including illiteracy and rural shyness, the research assistant undertook interview strategy rather than self-administering strategy to fill in the questionnaire.

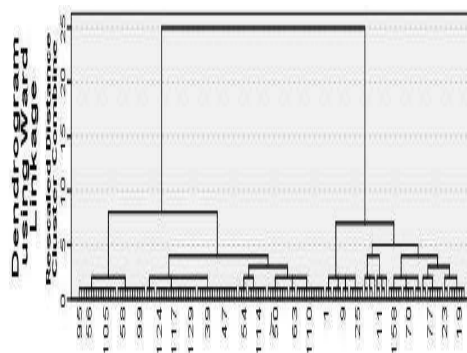
A total of 160 dully filled questionnaires out of 180 were used for data analysis. The data were subjected to a combination of hierarchical and non-hierarchical cluster analysis using Ward method and k-means techniques respectively (Punj & Stewart, 1983). The scale items capturing residents' perception (19 items) of tourism were used in the cluster analysis; factor analysis as a means of reducing the number of items used in cluster analysis was not opted for due to the possible clustering errors that emanate might emanate from the performance of factor-cluster analysis (Dolnicar & Grun, 2008). Informed by previous studies that observed residents to cluster around three to five segments (Lundberg, 2015) and by the sample of this study, which is relatively small, a step-wise approach to explore the possible numbers of clusters (Brida *et al.*, 2010; Gon *et al.*, 2016; Perez & Nadal, 2005) with a threshold of 20% ($n \geq 32$) was opted for, which yielded 2 clusters. Unlike many studies that undertook factor-cluster analysis approach in segmenting residents in a touristic destination (e.g. Sinclair-Maragh *et al.*, 2015), this study opted for cluster analysis only as it is a better approach compared to the factor-cluster approach (Dolnicar & Grun, 2008). Dolnicar and Grun (2008) argue that the reduction of items/variables before clustering reduces the differences between the clusters and thus acts as a 'pollutant' to the cluster

analysis. To keep in line with the social exchange theory commonly used in appraising residents' perception of tourism, this study compared the clusters basing on their overall satisfaction of tourism. It is assumed that the higher the overall satisfaction of tourism the higher the residents perceive the benefits derived from tourism to outweigh the costs.

RESULTS

The hierarchical cluster analysis using Ward method that was used to explore the possible number of clusters yielded 2 cluster solutions. Pictorially, the results are shown using a dendrogram as Figure 1.

Figure 1. Cluster solution-Dendrogram



The descriptive and inferential results for the two clusters of residents basing on their perceived impacts of tourism are presented as Table 1. Generally, the results indicate the second cluster to have relatively higher and lower mean scores for positive and negative tourism impacts statements respectively, indicating residents under this group to have positive perception of tourism impacts. Moreover, the second cluster has a higher significance for overall satisfaction with tourism, which is an indication that the respondents under the cluster perceive tourism benefits as exceeding the costs. Consequently, the second cluster is labeled 'embracer' while the first cluster is labeled 'dispellers'. As the results indicate the two clusters to have a significant statistical difference in mean scores for 13 items out of 20, which is more than 50%, the first hypotheses is not rejected, indicating the possibility of segmenting the residents basing on their perceived impacts of tourism.

Cluster 1 constituted 68% of the sample and had mean score for all the tourism impact items with the exception of two items. These included 'local community adopt bad foreign culture' and 'construction of tourist facilities leads to the destruction of natural environment', which were relatively lower, indicating this group to have less positive perception of tourism impacts in their areas. From these characteristics, the items in this cluster are labelled as 'dispellers' as they appear to be less positive on tourism impacts. Cluster 2 had 32% of the respondents who are more positive about the impacts of tourism in their areas with the exception of the 2 statements that were significantly scored higher by the dispellers. Overall, this cluster significantly scored higher in its overall satisfaction with tourism industry as well as perceiving tourism to have more benefits that costs. The items in this cluster are labelled as 'embracers' to reflect their positive perception of tourism impacts.

Table 1: Perceived impacts of tourism between clusters

Scale item	Cluster	Mean	Std. Dev.	t-value	Sign.
Household standard of living has increased	1	1.8440	1.01993	-18.076	.000
	2	4.6471	.62685		
Creates more jobs for foreigners than local	1	4.1927	.78737	5.962	.000
	2	3.1569	1.40531		
Provides market for farm products	1	2.6697	1.06332	-9.494	.000
	2	4.2941	.87850		
Brings in benefits to only few people	1	4.3578	.89776	5.684	.000
	2	3.2157	1.64090		
Increases the price of goods and services	1	1.8807	.89984	-8.550	.000
	2	3.5686	1.59066		
Preserves the culture and encourages local handicrafts	1	4.1101	.59845	-4.264	.000
	2	4.5882	.77914		
Local community adopts bad foreign culture	1	3.1284	1.05498	-5.599	.000
	2	4.1373	1.07740		
Provides culture exchange and education	1	4.1743	.52430	-2.865	.005
	2	4.4314	.53870		
Improves infrastructure and public service	1	3.4404	1.32239	-5.299	.000
	2	4.5098	.83361		
Causes conflicts between local residents and tourists	1	1.2110	.45284	1.029	.305
	2	1.1373	.34754		
Further tourism development improves economic status	1	4.7706	.53805	-1.891	.060
	2	4.9216	.27152		
Tourism development in general keeps on improving year after year	1	3.2110	.80592	-1.694	.092
	2	3.4706	1.08357		
Income from tourism has improved over the years	1	1.9817	.69364	-7.932	.000
	2	3.2353	1.30519		
Tourism leads to greater protection of natural environment	1	4.7798	.45862	1.343	.181
	2	4.6275	.97900		
Causes more rubbish and improper waste disposal	1	1.3945	.68066	-1.079	.282
	2	1.5490	1.11917		
Construction of tourist facilities leads to the destruction of natural environment	1	1.7706	.55499	-2.753	.007
	2	2.1569	1.22266		
Local community awareness of environmental issues	1	4.6239	.82540	-1.120	.264
	2	4.7647	.51335		
Now there is less land for agriculture	1	2.2569	.95650	-1.182	.239
	2	2.4706	1.27048		
Overall satisfaction	1	3.9113	.47497	-7.944	.000
	2	4.5359	.43756		

Demographic profile and involvement in tourism

In examining the socio-demographic and involvement between the two clusters, Chi-square tests were performed to relate the clusters with demographic variables and involvement in tourism. The results of the analyses are presented as Table 2. With respect to socio-demographic variables, the results indicate significant difference between the clusters on gender at 1% level of significance. The embracer segment has a larger proportion of males compared to the dispellers' segment which has relatively more females. Thus H_2 is partially rejected. For three forms of involvement with tourism industry, the two clusters significantly differ, with embracer segment having more of those who are involved, hence H_3 is not rejected.

Table 2. Demographic and involvement profiles of the clusters

Variable	Cluster 1	Cluster 2	Chi-square
Gender: Male (Female)			
Female	50	40	14.967 (.000)
	59	11	
Marital status			
Single	24	13	.906 (.847)
Married	66	32	
Others	11	4	
Residence			
1 to 5 years	17	14	3.143 (.213)
5 to 10 years	36	14	
Since birth	56	23	
Education			
Primary school	73	34	1.508 (.470)
Secondary school	33	17	
Tertiary	3	0	
Direct contact with tourists			
Yes	16	43	72.376 (.000)
No	93	8	
Earn a living from tourism			
Yes	33	46	49.907 (.000)
No	76	5	
Main source of household income			
Yes	10	42	84.812 (.000)
No	99	9	
Household member involved in tourism			
Yes	30	30	14.523 (.000)
No	79	21	
Provide opinion			
Yes	9	20	22.440 (.000)
No	100	31	
Participate in tourism meetings			
Yes	8	28	45.074 (.000)
No	101	23	
Informed on tourism development decisions			
Yes	5	22	36.809 (.000)
No	104	29	
Age			
18-25	21	11	12.183 (.016)
26-33	18	12	
34-41	20	18	
42-49	17	5	
50 and above	33	5	

DISCUSSION AND THEORETICAL IMPLICATIONS

This study aimed at segmenting residents basing on their perception of impacts of tourism using Kilimanjaro as a case study. The results provide evidence of the existence of two distinct segments of residents that differ in their perceived impacts of tourism as well as their involvement in the tourism industry, thus offering support to the two hypotheses that were derived from the literature (H_1 and $H_{3,4,5}$). The results offer partial support to the hypothesis (H_2) that related the two residents' segments with socio-demographic variables as only age and gender were significantly different between the two segments.

The results of this study affirms the heterogeneity of residents having different perceived impacts of tourism on a continuum of positive and negative perceived impacts (Andriotis & Vaughan, 2003; Lunderberg, 2015; Williamson & Lawson, 2001). Unlike previous studies that observed larger parts of their samples to fall under

the more positive clusters (Andriotis & Vaughan, 2003; Lundeborg, 2015; Perez and Nadal, 2005; Williamson & Lawson, 2001), this study observed the majority of respondents (68%) to fall into a cluster having less positive perception of tourism impacts. A possible explanation for this divergence in segment proportion can be derived from the different research contexts. Schofield's (2011) results indicated majority of the sampled Worsley residents (United Kingdom) to fall under the uncertain segment, who were ambivalent on the impacts of tourism. It was argued that the results reflected the pre-development stage of the area, implying a much longer history in tourism. From Lundberg's (2015) findings that indicating residents from a less tourism destinations to harbour more negative perceptions than those from advanced tourism destinations, then by extension, the fact that a larger part of the sampled Kilimanjaro residents belongs to the dispeller segment with less positive perceptions of tourism impacts implies that although the area is mature in tourism, it has failed to contribute much to the local economy. Similar observation within African context (Bwalya-Umar & Mubanga, in press) observed residents to have more negative perceptions towards tourism, leading to the conclusion that residents in less developed tourism areas particularly in the sub-Saharan African countries like Tanzania to have a lesser positive perception towards the impacts of tourism.

Using socio-demographic variables to describe the different clusters of residents' perceived impacts of tourism indicates the variables to be less useful in profiling the residents, thus supporting previous studies (e.g. Andriotis & Vaughan, 2003; Schofield, 2011). In line with Schofield (2011), this study observed that only gender differentiates the two clusters, with females being likely to fall under the less positive group compared to males who are likely to belong to the embracer group. A possible explanation to such a finding could indicate the mountain tourism nature of Kilimanjaro where males can participate in tourism through such activities as being porters or tour guides. Concurring with Williams and Lawson's (2001) argument that a researcher should use more of personal related variables apart from demographics, this study proposed and affirmed the use of involvement of residents in tourism as an alternative in profiling residents' segments. Particularly, residents' involvement through direct contact with tourists, economic engagement, and political involvement served in understanding the residents' profile, with those having positive perceived impacts of tourism being likely the ones who are involved in tourism. As all aspects of residents involvement relates with residents' perception of tourism impacts, the study results offer support to the social exchange theory (Andriotis & Vaughan, 2003), dependency theory/growth machine theory (Madrigal, 1995), and contact hypothesis (Ward & Berno, 2011).

Managerial implications

Several practical implications can be derived from this study. As the residents significantly differs with respect to their perception of the tourism impacts, destination managers need to know the different residents segments and effect different strategies onto the different segments. For instance, policy makers and destination managers, should ensure that residents are involved in tourism in all aspects, including politically, economically, and socially. Economically, policy makers and managers should ensure that local residents are empowered in order to fully participate in the tourism economic activities, such as establishment of small and medium sized tourism businesses, including farm houses and cultural tourism centres. To the private tourism businesses in destinations like the one considered in this study, the business can benefit in the long run by economically engaging the residents either by procuring products from them or by employing them which increases the chances of the residents to have more positive perception of tourism as an industry and thus offering their support to it. The establishment of cultural tourism centres in mountain tourism destination that is male dominated can facilitate the participation of females in tourism in the area. As observed by previous studies in similar areas (Bayno and Jani, *in press*), cultural tourism is more female centred as it offers more economic activities for females to participate in it. Furthermore, the presence of cultural tourism centres along the mountain climbing routes can facilitate the direct contact between tourists and residents that can improve the chances of residents perceiving tourism more positively. Given the iconic image of Mount Kilimanjaro and the huge number of climbers per annum, the political participation of a maximum of 22.5% of residents in meetings related to tourism development in the area is meager. Destination managers and planners should ensure that more residents are actively participating in planning and development processes. The active participation of residents in decision making necessitates the residents to be knowledgeable and aware of the impacts of tourism in their areas; thus policy makers, particularly local governments, should periodically educate and inform the residents on tourism issues using both physical meetings and local newsletters. The fact that about 66% of the residents in this study fall in the category of having a primary education or less should alarm the local and central government to

promote higher formal education that can assist in making the residents more knowledgeable of tourism other industries that can elevate their involvement in all aspects.

Limitations

Although the present study is contextually and methodologically limited, its findings extend the literature on residents' perception of tourism impacts, and informs future studies in the area. The contextual limitations of this study with data being collected in less researched areas of sub-Saharan African country particularly Tanzania, should motivate researchers in African and other developing countries to undertake research to complement the current one. Methodologically, the study used a cross sectional approach that might offer a limited perspective on residents' perceptions that change over time, thus future studies should try to use a longitudinal approach.

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