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From Spectrum to Multiverse: A New Perspective on the Diversity of Quality Control Tools for Sustainable Tourism Theory and Practice

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Abstract

Sustainable tourism quality control tools (QCTs) are voluntary mechanisms that translate sustainable tourism concepts into practice. While essential to sustainable tourism practice, the most recent depiction of their diversity occurred in the early 2000s and identified just four types and one variability parameter. Reviewing and synthesizing the extant literature, this study identifies 15 types of QCTs, each possessing numerous variations, and seven critical variability parameters. Together these constitute the new "QCT multiverse." This contemporary perspective on QCT diversity facilitates engagement with sustainable tourism by indicating the more comprehensive array of practices available for destination practitioners and managers.

Keywords

sustainable tourism, quality control tools, certification, ecolabels

Introduction

The tourism industry affects natural, sociocultural, and natural environments, potentially degrading the environments that attract visitation. A sustainable trajectory for the tourism industry is therefore essential. This underscores the importance of *sustainable tourism*, which involves the minimization of adverse tourism-related impacts to maintain the integrity of those environments, and the parallel maximization of the attendant positive impacts (Weaver 2014b). Sustainable tourism imperatives initially arose following the popularization of the sustainable development concept in the late 1980s, which called for industries to embrace triple bottom line (TBL) ideals of natural, sociocultural, and economic integrity (Elkington 1998; WCED 1987). Presently, this is increasingly recognized as a goal toward which all should aspire (Weaver 2014b).

Translating sustainable tourism concepts into practice has been central to industry agendas since the 1990s, giving rise to the necessity and implementation of sustainable tourism *quality control tools* (QCTs) (Black and Crabtree 2007; Font and Buckley 2001). QCTs are imperative to sustainable tourism progress because they translate associated concepts into practice. They can be defined as voluntary mechanisms ("tools"), including products, practices, processes, or services that assist businesses to progress toward, promote, and practice TBL sustainability. On the supply side, they progress demand-side TBL ideals such as resource reduction, reuse, and substitution increasingly recognized as important aspects of quality for consumers, while simultaneously recognizing and accommodating more conventional parameters of quality such as hygiene, aesthetics, and safety that remain highly valued by customers (Black and Crabtree 2007; Toplis 2000; Weaver 2001, 2006). Their collective use facilitates destination-wide sustainability progress, thereby contributing to overarching destination quality by maintaining the integrity of those conditions that attract visitation and enhance the visitor experience (Weaver 2006; Weaver and Lawton 2014).

Despite their essential role for inducing a sustainable trajectory in the tourism industry, QCT diversity within the contemporary landscape has not been recently articulated. The most recent attempt, in 2006, proposed a *spectrum* of four QCTs arrayed along the single variable of strength (Weaver

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2006). Yet, it is likely that more QCTs and variability parameters exist in a more complex *multiverse* given that sustainable tourism inquiry and practice has remained active in the interim as a sector imperative and topic of academic investigation. This knowledge, however, has yet to be aggregated and articulated, which represents a critical gap in our understanding of the contemporary QCT landscape. This study will therefore draw upon the relevant literature to identify QCT diversity in the sustainable tourism knowledge domain with regard to affiliated types and variability parameters, thereby yielding a basis for subsequent empirical engagement and continual improvement.

Articulation of this diversity, accordingly, facilitates industry engagement with effective QCT practice. This is critical because the QCT widely positioned as the aspirational trajectory—certification programs (Honey 2002; Synergy 2000; Weaver 2006)—has gained minimal industry traction and thus may be limited in its potential to achieve widespread sustainability progress (Dodds and Joppe 2005; Dunk, Gillespie, and MacLeod 2016). It is therefore important to identify alternative modes of QCT practice to unveil other options, alone or in combination, that may be more conducive to diverse industry needs and capacities for sustainable tourism progress. Similarly, the more diverse array of variability parameters likely to be revealed in this research provides practitioners with new and richer criteria for comparing QCTs and assessing their suitability to those needs and capacities; that practitioners are already aware of this enhanced spectrum of QCT opportunity cannot be assumed. For the attendant knowledge domain, revelation of this salient diversity with regard to multiverse breadth (magnitude of QCTs) and depth (variability parameters) lays a strong foundation for its further conceptual and theoretical articulation.

The subsequent literature review contextualizes the research by discussing sustainable tourism theory and practice in relation to QCTs, including the seminal but outdated Weaver (2006) framework and affiliated literature that denotes a broader landscape of contemporary industry practice. Subsequent sections describe the methods and results, and discuss the findings' theoretical and practical implications.

Literature Review

Sustainable Tourism Theory and Practice

Sustainable tourism has vestigial roots in the concept of sustainable development, popularized by the World Commission on Environment and Development (WCED) (or Brundtland Report), as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED 1987, p. 43). Few concepts have attracted similar attention in contemporary academic discourse, but an attendant paradox is that while semantic ambiguity contributes to its widespread acceptance, the specifics of meaningful technical application are still lacking for the same reason (McCool et al. 2013). Like its parental concept, sustainable tourism is actively debated and continues to evolve conceptually (Bramwell et al. 2017; Weaver 2014a, 2014b, 2017), and in ways that influence engagement with associated QCTs. The literature initially equated sustainable tourism with meritorious "alternative tourism" situated as the polar opposite of "unsustainable" mass tourism. However, recognition by the early 1990s emerged that alternative tourism could be unsustainable and mass tourism sustainable depending on individual circumstances (Butler 1990; Clark 1997; Weaver 2001, 2006). Ideologically driven discourses of polarity, accordingly, have given way to an interdigitization of mass and alternative tourism, as per their alleged "evolving synthesis" (Weaver 2014b). Weaver (2014b) proposes a current paradigm of "amalgamation," wherein alternative and mass tourism are merging dialectically to resolve the inherent disadvantages of each, culminating in "enlightened mass tourism" (Weaver 2017). Ultimately, it is increasingly recognized that all tourism, irrespective of scale, can and should progress sustainability ideals. Furthermore, while the specifics of their applications will vary according to individual circumstances, the same QCTs may be used in all instances.

Irrespective of evolving conceptualizations, the practicalities of sustainable tourism are challenging (McCool et al. 2013) and have direct and important implications for QCT practice. For example, Hunter (1997) proposes an adaptive paradigm of sustainable tourism practice with "weak" and "strong" manifestations. The former, involving relaxed standards of achievement, are warranted in mass tourism contexts where extensive modification pertains and reversion to seminatural conditions is impractical and usually undesirable. Strong manifestations, in contrast, are warranted in seminatural locations where high standards (e.g., high percentage of land occupied by high-order protected areas) are necessary to retain such conditions if desired. This adaptive "contextual strength" broadly parallels QCT practice, with Weaver (2006) distinguishing between conceptually "weak" QCTs such as codes of conduct that are mere rhetorical aspirations and "strong" QCTs such as certification programs that require achievement of set sustainability targets (see below) and hence are especially appropriate for ensuring that the ecological integrity of seminatural destinations is maintained.

Sustainability approaches are also differentiated through "status quo" and "enhancement" manifestations that respectively imply the maintenance or improvement of a given situation (Weaver 2006). The status quo approach aligns with "minimalist" sustainable tourism that can lead to "comprehensive" sustainable tourism favoring enhancement approaches (Weaver 2006, p. 25). These theoretical perspectives also collectively and broadly align with QCT practice. Minimalist approaches, as actualized by conceptually weak

QCTs, entail low entry barriers. Their use can then transition toward comprehensive sustainable tourism progress, abetted or replaced subsequently by stronger QCTs that provide a comprehensive framework for sustainability that enables multiple functions for its progress, such as continued measurement, monitoring, management, assessment, and reporting (Weaver 2006).

Sustainable Tourism QCTs

Notwithstanding the sustainable tourism approach advanced or adopted, QCTs ultimately provide a common structure for sustainable tourism progress. Just as sustainability requires continual adaptation and evolution to reflect the inherently dynamic tourism system, affiliated QCTs demand constant evolution, synthesis, and customization (Farrell and Twining-Ward 2004; Hunter 1997; Weaver 2006, 2014b). Quality is perhaps the most critical factor for achieving success accordingly (Black and Crabtree 2007), regardless of differences in conceptualization of sustainable tourism or destination type. The quality management literature traditionally associates "quality" with customer satisfaction and expectation alignment, wherein it exists only when products and services meet consumer expectations (Oakland 1994; Weiermair 1997). However, sustainability is increasingly recognized by businesses and consumers as an important and complementary quality dimension across numerous industries, including tourism. The United Nations World Tourism Organization (UNWTO), for example, interprets quality as an outcome of processes that generate satisfaction with product and service needs, consumer requirements and expectations of acceptable pricing, conformity with traditional barometers of quality (i.e., health, safety, security, hygiene, accessibility, and transparency), and harmony with human and natural environments (Toplis 2000). This holistic understanding of quality, with emphasis on TBL ideals, parallels notions that the natural, sociocultural, and economic integrity of destinations is imperative because it directly influences tourist visitation and experiences (Weaver 2006).

Accordingly, we equate quality in sustainable tourism with engagement in practices that (a) minimize the negative TBL impacts induced by their operations while (b) progressing the concomitant positive impacts, including visitor satisfaction, as per enhancement sustainability (Weaver 2006). QCTs are the vehicles that provide a common structure to sustainable tourism, facilitating and embodying quality in sustainable tourism, ensuring its practical application if applied appropriately (Black and Crabtree 2007). They can be mandatory or voluntary and either business- or destination-oriented (Black and Crabtree 2007; Honey and Rome 2001; Weaver 2006). Mandatory QCTs meet regulatory standards, and adoption is obligatory. These include government laws and regulations pertaining to wages, zoning bylaws, and waste disposal (Weaver 2006). In contrast, voluntary QCTs are adopted at user discretion, and encourage sustainability progress that meets and often exceeds regulatory requirements (Black and Crabtree 2007; Toth 2002; Weaver 2006). This study focuses on voluntary QCTs designed for businesses, which dominate tourism supply in market economies. QCTs embody guiding frameworks and mechanisms (practices, products, processes, or services) that facilitate sustainability progress. Their voluntary nature is envisaged to progress quality in sustainable tourism, promoting innovative and customized applications (Black and Crabtree 2007; Honey 2002; Toth 2002; Weaver 2006). In market economies, voluntary mechanisms or "self-regulation" is usually encouraged, pending responsible executions of that privilege, so that public resources can be more efficiently allocated. Concurrently, industry is incentivized by the autonomy this confers, and the avoidance of often more stringent government regulation.

The Quality Control Spectrum. The sustainable tourism Quality Control Spectrum of Weaver (2006) (Figure 1) provides the incipient analytical framework for this research, being the only such framework identified in the English-language literature pertaining specifically to the QCT context. It conceptualizes four basic QCTs. The spectrum shows their diversity by strength, ranging from conceptually weak measures that focus on awareness and responsibility (policy statements and codes of conduct), to stronger forms that implicate formal management systems and independent oversight (certification) (Black 2002; Black and Crabtree 2007; Weaver 2006). Strength, and other potential diversity themes, are hereafter described as "variability parameters" because they embody ways in which QCTs can vary.

Certification programs, the strongest of these early-recognition QCTs, involve organizations that award a marketable logo to entities adhering to prescribed standards, as independently verified (Font 2002; Graci and Dodds 2015). Certification is renewed at set intervals, typically annually or biennially, as long as continued adherence is confirmed and applicable dues paid (Bien 2006; Black and Crabtree 2007; Font 2001; GSTC 2016; Honey and Rome 2001). *Awards* are prestige-conferring mechanisms offering ephemeral recognition (usually one year). They are exclusive, with only one or several granted per award cycle (Weaver 2006; Weaver et al. 2013). *Codes of conduct* build capacity through endorsed statements about commitment to socially and environmentally responsible behavior, while *policies* are rhetorical commitments to responsible tourism that may instigate higher-order QCT adoption (Mason 2007; Mason and Mowforth 1996; Weaver 2006).

Contemporary QCT Practice: Conventional Landscape

Historically, QCT practice has focused on enhancing congruency and differentiating credible options through mechanisms for independent assurance (Graci and Dodds 2015; Honey and Rome 2001; Honey 2002; Font and Sallows 2002; Font, Sanabria, and Skinner 2003). Conformance-based QCTs

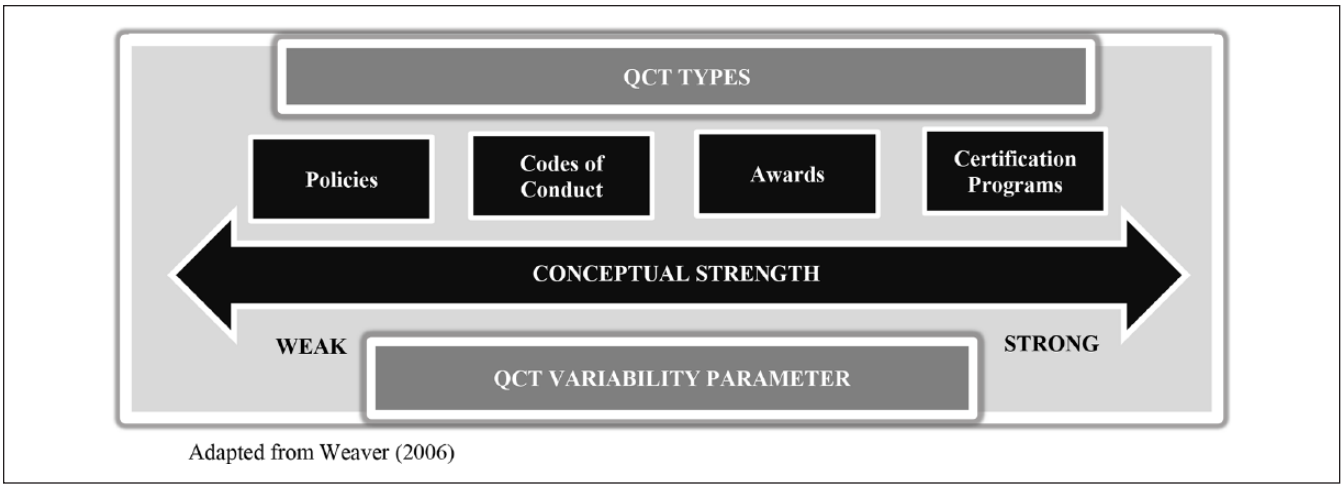

Figure 1. The quality control spectrum.

offering comprehensive, common standards of sustainable tourism practice were advocated accordingly (Dodds and Joppe 2005; Honey and Rome 2001; Sanabria 2002; Weaver 2006). Tourism certification programs epitomized these ideals and have thus been widely positioned as the aspired trajectory of sustainable tourism practice. Perceived benefits for adopting businesses include potential market and economic advantages from logo display and resource efficiencies, respectively (Graci and Dodds 2015; Honey 2002; Font and Harris 2004; Toth 2002). They also offer a comprehensive framework for progress that permeates all operational aspects, including mechanisms for continual improvement (Honey 2007). Expert intervention has added advantages of conferring high credibility through independent verification of conformance (Font 2002; Toth 2002; Weaver 2006). Tourism certification programs, therefore, have attracted considerable and arguably inordinate attention in QCT inquiry (e.g., Buckley 2002; Font 2002; Font and Buckley 2001; Font and Harris 2004; Honey and Rome 2001; Honey and Stewart 2002; Medina 2005; Park and Millar 2016) and practice (e.g., Synergy Report, Mohonk Agreement, Sustainable Tourism Stewardship Council, Global Sustainable Tourism Council [GSTC]), with a focus on optimization.

While commonly positioned as the most advantageous and credible QCT, far less than 1% of businesses globally held certification in the early 2000s (Dodds and Joppe 2005). This, at least superficially, indicates what we term merit/adoption disconformity (MAD) syndrome. That is, certification programs offer high merit but are plagued by low industry uptake. This is problematic as it seems to inhibit fuller tourism industry engagement with sustainability. Recent figures indicate the persistence of low adoption of the approximately 100 programs available. Preliminary secondary research conducted by the authors in 2014, for example, found that 5,213 businesses held certification to a GSTC-recognized certification program (DestiNet 2014). The certification programs that hold any level of GSTC recognition are among the most credible, as this signifies alignment with globally recognized sustainable tourism criteria and rigorous procedural requirements (GSTC 2018). If one adds Ireland's Green Tourism Business Scheme, which had the most membership of any program at that time, certified membership reaches 7,444. More recently, ECOTRANS (2016) estimated that 11,250 businesses held certification to at least one of the 20 leading sustainable tourism quality labels. However, only 11 of those labels engaged in the GSTC-recognition process, and these accounted for only 4,328 of those businesses. All these statistics can be contextualized against our estimate of several million tourism businesses worldwide, based on 109 million direct tourism jobs in 2016 and concomitant small business domination (WTTC 2017).

The apparently negligible uptake of tourism certification programs is problematic because a critical mass of adopters is necessary to generate the aforementioned market advantages and other traction, and more broadly suggests limited capacity to progress sustainability (Dodds and Joppe 2005; Font 2002; Font and Epler Wood 2007). A significant body of research investigates MAD syndrome, with cost (time and money) among the most frequently cited adoption deterrents (Ayuso 2007; Carasuk, Becken, and Hughley 2013; Jarvis, Weeden, and Simcock 2010; Mair and Jago 2010). Widespread industry unawareness of available programs is another longstanding deterrent (Font and Epler Wood 2007; Dunk, Gillespie, and MacLeod 2016). While this may signify the broad failure of sustainable tourism as an aspirational practice 30 years after the concept's introduction, it could also indicate inherent problems with certification that dissuade adoption and incentivize alternative QCT pathways. It is important to unveil these diverse QCT pathways as they may offer more conducive means of sustainable tourism practice than certification programs by, for example, considering the actual diversity of the tourism industry, and

offering to those with limited capacity less involved and more rudimentary starting points and avenues for progress.

The other three QCTs recognized by Weaver (2006) indicate industry engagement in alternative voluntary mechanisms. Recognition of policy, for example, is evident throughout sustainable tourism inquiry (Ayuso 2007; Best and Thapa 2013; Dodds and Kuehnel 2010; Nicholls and Kang 2012). While few empirical studies explore awards (Weaver et al. 2013) or codes of conduct (Ayuso 2006, 2007), they are amply conveyed in the conceptual and evaluative literature with examples from industry practice (Font and Tribe 2001; Mason 2007; Mason and Mowforth 1996; Toplis 2007). However, since Weaver (2006), no additional QCTs have been explicitly identified or proposed, although it is conceivable that the contemporary landscape is more diverse than so depicted.

The literature reveals numerous implicit QCTs (see Ayuso 2006, 2007) beyond Weaver (2006), but ironically also unintentionally emphasizes the limited attention afforded to aggregating and organizing this knowledge by not, for example, using a common term such as QCT. (Implicit) QCT enquiry has always privileged certification above a broader articulation of the affiliated diversity, with early (1990–2007) foci on conceptual, exploratory, and evaluative insights (Black and Crabtree 2007; Buckley 2002; Font 2002; Font and Buckley 2001; Font and Tribe 2001; Honey and Stewart 2002; Honey and Rome 2001; Toth 2002; Weaver 2006) and more contemporary (post-2007) themes of (1) demand, attitudes, and awareness (e.g., Nicholls and Kang 2012; Park and Millar 2016); (2) performance and impact (e.g., Assaf, Josiassen, and Cvelbar 2012; Erdogan and Tosun 2009 ; Font et al. 2012); and (3) factors influencing, and/or perceptions of, [potential] adoption (i.e., barriers, facilitators, drivers, motivations, decision-making processes, and perceived benefits and challenges to adoption and implementation) (e.g., Bonilla-Priego, Najera, and Font 2011; Carasuk, Becken, and Hughley 2013). Aggregation of such implicit QCTs and their variability parameters offers additional options for the subsequent advancement of sustainable tourism practice to, for example, create a framework for QCT selection. This can provide a means to counteract the frequently cited barriers to sustainable tourism practice, such as of lack of awareness of available options (Ayuso 2007).

Beyond the explicit variability parameter of "strength" articulated in Weaver (2006), the literature reveals other implicit themes of QCT diversity such as QCT variability across geographical and sectoral applicability (Font and Buckley 2001). These variability parameters offer important insights for QCT selection as, for example, by denoting whether a given QCT's use is feasible for businesses operating in specific locations or sectors. The inherent dynamism of the tourism system suggests a concurrent evolution of sustainable tourism practice over the past decade and, in turn, QCTs with more diverse parameters of variability. Yet, these important diversity themes have not hitherto been formally identified, let alone aggregated and articulated.

The explicit and implicit realm of contemporary QCT practice, therefore, has yet to be appropriately articulated, leaving significant gaps in this aspect of the sustainable tourism knowledge domain. Accordingly, this study articulates contemporary QCT diversity in two capacities. First, diversity by type will identify the number of individual QCTs as revealed in the literature; second, diversity by theme will offer a broad depiction of collective diversity, encapsulating the ways QCTs differ by theme and attendant subthemes (i.e., critical variability parameters).

Methods

This qualitative research adopts an inductive approach to identify QCT diversity as revealed in the literature, extracting patterns and explanations from relevant sources (Neuman 2006; Veal 2005). Such inductive outcomes, rigorously derived, can provide a strong foundation for further empirical articulation of the topic through appropriate quantitative methods. Secondary data are important information sources for qualitative methods (Decrop 1999), and are essential to fulfill the present research objectives. Accordingly, relevant secondary data sources were content and inductively analyzed to extract patterns and themes to identify QCT diversity by type and variability parameter. Figure 2 shows the research design described subsequently, including (a) data collection and sampling, (b) materials, and (c) data analysis techniques and (d) process, culminating in the two attendant research outputs of QCT diversity in type and theme.

Data Collection

Guidelines followed for documentary research included locating, organizing, and analyzing relevant documents, evaluating the extracted information, and interpreting these data (Sarantakos 1998, 2005). Documents were primarily located through formal channels, including library catalogs, journal indices, and databases. Various search terms were used to locate materials, as terminology for existing and candidate QCTs is varied, inconsistent, and sometimes nonexistent. For example, the candidate QCT of environmental best practices is sometimes referred to as "environmentally friendly practices" and "green practices" (Le et al. 2006, p. 556; Nicholls and Kang 2012, p. 961; Rahman, Reynolds, and Svaren 2012, p. 720). Other studies refer only to genre (e.g., ecolabels) or specific "brand" (e.g., Green Tourism Business Scheme) (Bohdanowicz and Zientara 2008; Le et al. 2006; Nicholls and Kang 2012; Park and Millar 2016).

Accordingly, numerous terms that reference specific sustainable tourism practices, existing QCTs, or candidate QCTs individually, in specific groupings, or collectively were searched. Examples include "certification programs," awards," "codes of conduct," "policies," "ecolabels," eco-certification, environmental certification, sustainable tourism certification, environmental practices, sustainability practices, "sustainability tools,"

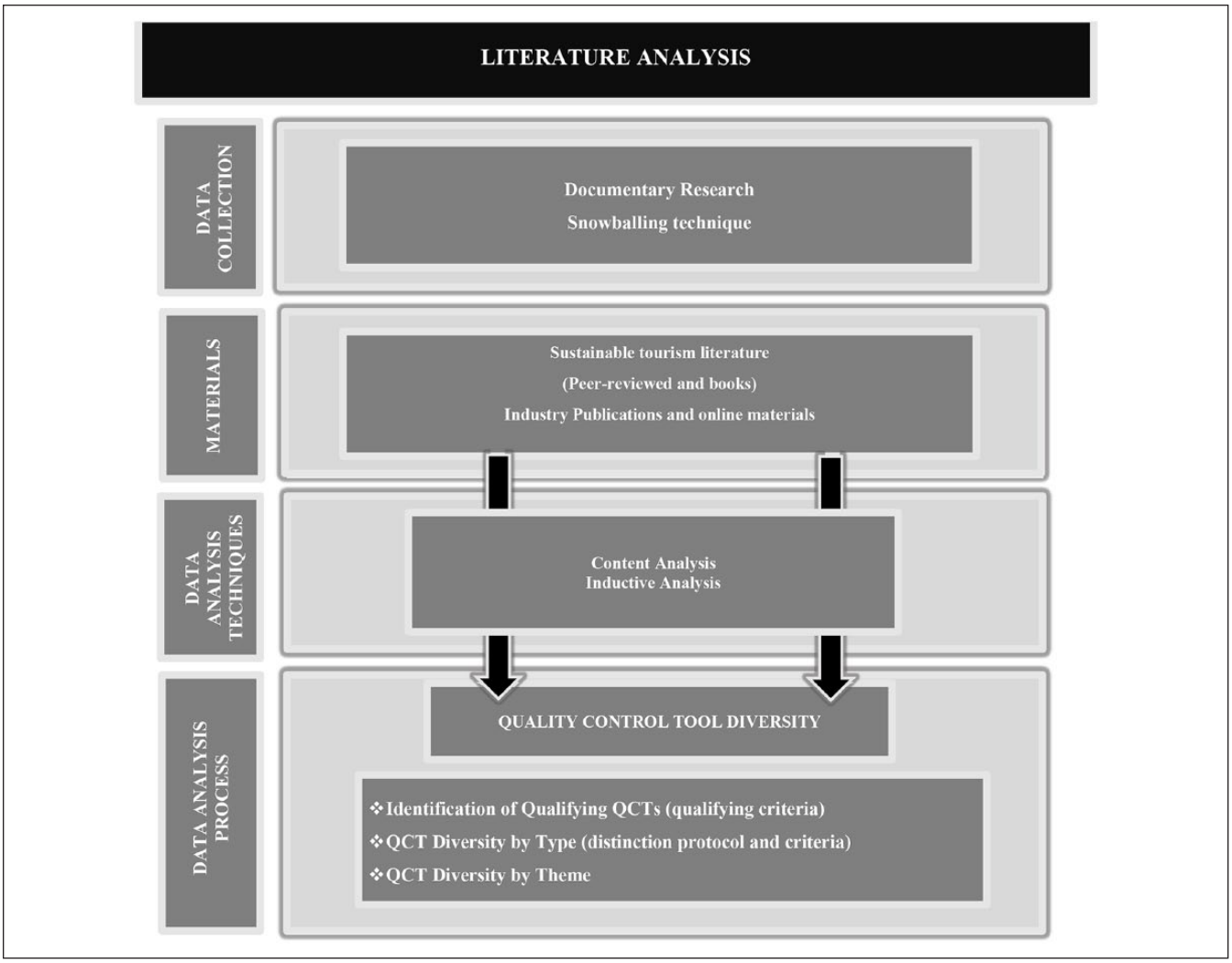

Figure 2. Research design.

"sustainability initiatives," "CSR initiatives," and "voluntary initiatives" in addition to broad terms such as "sustainable tourism," "environmental initiatives," and "environmental management." Informal channels were also accessed to identify relevant materials, which involved consulting experts about industry sources conducive to the research objectives (e.g., ECOTRANS, DestiNet, GSTC) (Jennings 2010). Consulted experts were leading academic and industry professionals in sustainable tourism, global sustainable tourism standard design and development, and sustainable tourism education and training, representing three continents. This diversity was important for credible and diverse guide material collection.

A snowballing technique carried out in a one-year period from mid-2014 to mid-2015 identified relevant sources and search terms through both the formal and informal channels. For formal channels, reference lists and key words for given works were drawn upon to elicit relevant materials. For informal channels, experts were initially selected from the authors' collective global network, whom were believed to be most knowledgeable about credible industry sources. Each consulted expert-provided references for subsequent consultation.

Materials

More than 500 documents within the broad sustainable tourism knowledge domain were initially consulted based on title and key word significations of this domain. These materials were evaluated for relevance to the research objectives and gradually distilled as per the content analysis methods and the relevance of content; the documents were organized accordingly (Sarantakos 1998, 2005). The resultant relevant materials collected included the English-language peer-reviewed sustainable tourism literature, books, industry publications, and online materials, detailed by type in Table 1. More than 100 documents serving as the key secondary data sources included QCTs with diverse applications ranging from tourism sector–specific to those

Table 1. Materials by Type.

Material Type	Number of Materials
Peer-reviewed journal articles	62
Books	19
Industry publications	13
Online materials	11
Total	105

useful to any business, in addition to QCTs designed for businesses individually or internationally, and those created by businesses themselves or external organizations.

Data Analysis Techniques

Analysis involved the interdigitation of induction and deduction, drawing out patterns and themes in QCT discourse. Distilled materials were content and inductively analyzed (Figure 2). Content analysis detected and analyzed the presence of key words or concepts to identify existing and candidate QCTs and diversity themes (Sproule 2010). Inductive analysis extracted patterns and explanations from key discourses throughout to fulfill research objectives (Veal 2005). Content analysis was employed in identifying candidate QCTs and type diversity, and to extract initial diversity themes. Inductive analysis was used throughout the affiliated data analysis process of identifying qualifying QCTs and QCT diversity by type and theme.

Data Analysis Process

Three steps of data analysis entailed the identification of (1) qualifying QCTs, (2) QCT diversity by type as guided by unified distinction protocol and associated distinction criteria, and (3) QCT diversity by theme. Each is described below.

Identification of qualifying QCTs. Once QCTs and candidate QCTs were identified, *qualifying criteria* guided their inclusion or exclusion. These are (a) voluntary, business-specific practices, defined as voluntary mechanisms (products, processes, practices, and services) for quality in sustainable tourism progress; (b) reoccurring themes in the English-language sustainable tourism literature; and (c) adequacy (theoretical saturation) attained for independent use (Jennings 2010).

Diversity by type. Identification of diversity by type entailed the enumeration of individual QCTs and their critical variations through a consistent protocol. Associated *distinction criteria* ensure that each qualifying type substantively differs from all other types. These offer broad, targeted, and detailed indications of the overarching approach to sustainability progress, including (1) defining conceptualizations (broad approach), (2) primary function (targeted approach), and (3) QCT structures (detailed approach) (i.e., QCTs collectively bundled within another QCT). Each distinction criterion offers a different perspective that together help to understand whether a given QCT substantively differs from all others. Accordingly, for each qualifying QCT, defining conceptualizations (criterion 1) were content and inductively analyzed to extract key characteristics, features, and procedures, thereby identifying its broad approach. Content analysis of numerous conceptualizations of a given QCT extracted its primary function (criterion 2), relating to how it primarily advances sustainability progress, such as measurement or prestige conferral (Lesar, Weaver, and Gardiner 2016). This offers a targeted understanding of its approach to sustainability progress. Content and inductive analysis identified QCT structures (criterion 3), which show the specific array of QCTs involved with its use (i.e., QCTs bundled within another QCT). This offered the most detailed depiction of a given QCT's approach to sustainability progress. The distinction criteria for each were continuously compared to distinguish among them (an example is provided below). Subsequently, a typology approach was employed to classify QCTs as per the type/variation distinction protocol (Grbich 2007; Jennings 2010). Hereinafter, "Types" refer to those identified as distinct from all others as per the above qualification and distinction protocols; these constitute the primary units of analysis. "QCT" henceforth refers to a given Type with its variations.

Diversity by theme. Identification of diversity by theme entailed analysis of variability parameters. Key words, concepts, and phrases were extracted via content analysis, and inductive analysis elicited patterns and themes to condense them into content-related categories that encapsulate diversity (Creswell 2007; Sproule 2010). The process concluded when no new critical variability parameters emerged and adequacy was reached (Creswell 2007) from the unlimited array of possibilities.

Trustworthiness. To minimize the subjectivity inherent to qualitative research, Lincoln and Guba's (1985) four trustworthiness criteria were followed. *Credibility* was enhanced by prolonged engagement with the literature and industry practice (Decrop 2004). The denoted one-year period of analysis was necessary to derive the Type distinction criteria, distinguish Types, and identify diversity themes and subthemes. The primary author also has prolonged engagement with programmatic design, which was imperative for comprehension of the diverse academic and industry materials gathered. *Transferability* was enhanced through purposive snowball sampling techniques among the formal and informal channels. Using both channels ensured document diversity for interpretation purposes, enhancing potential for developing new insights and reaching theoretical saturation. Transferability was also enhanced through thick descriptions (Decrop 2004). These detailed the Types and diversity themes extensively, allowing the other researchers to appraise the findings and their transferability to other settings—that is, that they

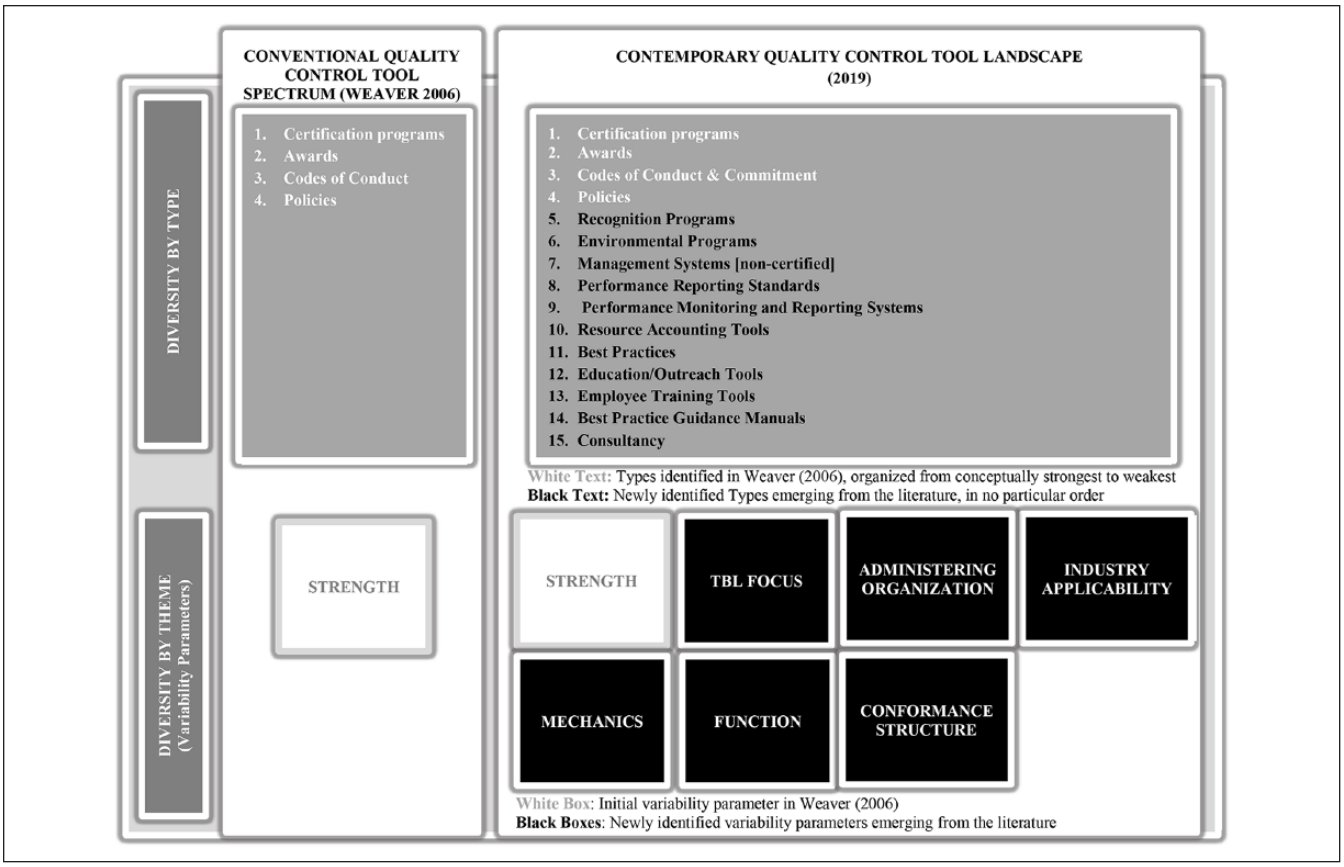

Figure 3. Contemporary quality control tool landscape: diversity by type and theme.

reflected the materials and examples from industry practice. Thick descriptions articulated (1) Type conceptualizations, including (a) Type distinction criteria that distinguished among Types, (b) how Types differed from other similar Types, but ultimately rendered distinct as per the distinction protocol, (c) examples from industry practice as shown in the literature, and (d) any variations of that Type including examples; and (2) diversity theme conceptualizations, including (a) articulation of subthemes and (b) examples. The second and third authors served as external auditors assessing the *dependability* and *confirmability* of the findings (Decrop 2004). These were enhanced by consistent auditor and second checks of all Type/theme distinctions and descriptions by the other authors throughout the analysis.

Results

Figure 3 shows the collective research findings of QCT diversity by Type and theme. Types are not arranged in any specific order due to the numerous variability parameters identified; this was feasible in Weaver (2006) as only the single variability parameter of strength was used, but our discovery of numerous variability parameters renders a similar hierarchy impractical. Beyond the 4 Types and 1 variability parameter in Weaver (2006), an additional 11 Types and 6 critical variability parameters were identified in the literature, as described below.

QCT Diversity by Type

Table 2 shows a detailed depiction of QCT diversity by Type, illustrating Types, exemplar variations, examples from practice, and relevant sources. The first four are from Weaver (2006), while the remaining 11 emerged from the literature analysis. Table 2 also shows terminology specifications, which is necessary because common terminology for all identified Types is varied, inconsistent, and sometimes nonexistent (denoted with a superscript letter *a* or *b*).

As stated above, *Types* are the study's basic unit of analysis, referring to QCTs that offer parallel overarching approaches to sustainability progress. Some Types (e.g., certification) subsume others (e.g., best practices). *Variations* are congruent with the parental Types across the distinction criteria, but further distinguished by an additional distinction criterion of four variability parameters (i.e., TBL focus, industry applicability, administering organization, and mechanics). Variations show the real-world diversity of contemporary QCT practice. The newly emergent 11 Types are now

Table 2. Quality Control Tool Diversity by Type (Detailed Depiction).

Type	Significant Variations	Industry Example	Key References
1. Certification Programs	• Sustainable tourism certification programs • Environmental tourism certification programs • Environmental certification programs • Certified EMS	• Sustainable Tourism Education Program (STEP) • Green Tourism Business Scheme • LEED Certification • ISO 14001 EMS (independently verified)	Ayuso (2006, 2007); Berghoef and Dodds (2013); Bendell and Font (2004); Best and Thapa (2011); Bien (2006); Black and Crabtree (2007); Bonilla-Priego, Najera, and Font (2011); Bricker and Schultz (2011); Buckley (2002, (2012); Carasuk, Becken, and Hughley (2013); Chan (2011); DestiNet (2014); Dodds and Joppe (2005); Dunk, Gillespie, and MacLeod (2016); EC3 Global (2018); ECOTRANS (2012, 2016); Esparon, Gyuris, and Stoeckl (2014); Font (2002); Font and Buckley (2001); Font and Harris (2004); Font and Epler Wood (2007); Font and Sallows (2002); Font, Sanabria, and Skinner (2003); Graci and Dodds (2015); GSTC (2016, 2017); Honey (2002, 2007); Honey and Rome (2001); Honey and Stewart (2001); Jarvis, Weeden, and Simcock (2010); Lesar, Weaver, and Gardiner (2016); Medina (2005); Millar and Baloglu (2011); Mycoo (2006); Rivera (2002); Sampaio, Thomas, and Font (2012); Sasidaharan, Sirakaya, and Kerstetter (2002); Strambach and Surmeier (2013); STI (2017); Synergy (2000); Toth (2002); Weaver (2006); Weaver and Lawton (2014)
2. Awards	• Sustainable tourism awards • Environmental awards	• Tourism for Tomorrow Awards • Golden Eagle Award for Environmental Excellence	Ayuso (2007); Black and Crabtree (2007); Font and Buckley (2001); Font and Tribe (2001); Lesar, Weaver, and Gardiner (2016); Toplis (2007); Weaver (2006); Weaver and Lawton (2014); Weaver et al. (2013)
3. Codes of Conduct & Commitment[a]	• Codes of conduct for industry • Codes of conduct for tourists	• APEC/PATA Environmental Code for Sustainable Tourism • Sustainable Slopes Environmental Charter • Leave No Trace	Ayuso (2006, 2007); Black and Crabtree (2007); Blangy and Epler Wood (1993); Bricker (2009); Dodds and Joppe (2005); Lesar, Weaver, and Gardiner (2016); Mason (2007); Mason and Mowforth (1996); Needham and Little (2013); UNEP (1995); Weaver (2006); Weaver and Lawton (2014)
4. Policies	• Environmental policy (waste, water, energy, emissions) • Social policy (e.g., fair labor, equal opportunity)	• Starwood's 30/30 By 20	Gil, Jiménez, and Lorente (2001); Ayuso (2007); Best and Thapa (2013); Dodds and Kuehnel (2010); Dief and Font (2012); Lesar, Weaver, and Gardiner (2016); Millar and Baloglu (2011); Tinsley (2001); Weaver (2006); Weaver and Lawton (2014)
5. Recognition Programs[b]	• Recognition programs for accommodations • Recognition Programs for ski resorts	• GreenLeaders Program • Ski Area Report Card	DestiNet (2014); Markovic and Petrovic (2013); Park and Millar (2016); Rivera and De Leon (2004); TripAdvisor (2015, 2018); Yu, Li, and Jai (2017)
6. Management Systems [noncertified]	• Environmental Management Systems	• ISO 14001 [non-certified]	Ayuso (2006, 2007); Best and Thapa (2011, 2013); Black and Crabtree (2007); Chan (2008, 201); Diamantis and Westlake (1997); Honey (2002); Dief and Font (2012); González-Benito and González-Benito (2006); Videira et al. (2006); Lesar, Weaver, and Gardiner (2016); Tinsley (2001)
7. Environmental Programs	• Internally administered environmental program	• Recycling Program	Best and Thapa (2011, 2013); Bohdanowicz, Zientara, and Novotna (2011); Dief and Font (2012); Lesar, Weaver, and Gardiner (2016); Needham and Little (2013)

(continued)

Table 2. (continued)

Type	Significant Variations	Industry Example	Key References
8. Performance Reporting Standards[b]	• CSR Reporting Standards • Resource Accounting and Reporting Standards • Internal Reporting Standards and Reports	• Global Reporting Initiative Standards • Greenhouse Gas Protocol	Bohdanowicz and Martinac (2007); Buckley (2012); De Grosbois (2012); De Grosbois and Fennell (2011); Dodds and Kuehnel (2010); Font et al. (2012); GRI (2016)
9. Performance Monitoring and Reporting Systems[b]	• Internal Benchmarking and Reporting Systems	• Hilton's LightStay Program	Bohdanowicz, Zientara, and Novotna (2011); Green Hotelier (2015); Houdré (2008)
10. Resource Accounting Tools[b]	• Performance Indicators • Resource Footprint Calculators	• CoolClimate Network Business Calculator • Park City Carbon Calculator	Ayuso (2006, 2007); Black and Crabtree (2007); De Grosbois and Fennell (2011); Lesar, Weaver, and Gardiner (2016); Toth (2006); Vereczi (2007); Weaver (2006)
11. Best Practices	• Environmental best practices (waste, water, energy, emissions) • Sociocultural best practices (fair labor, equal hiring)	• Recycle 3 kinds of waste	Gil, Jiménez, and Lorente (2001); Ayuso (2006, 2007); Best and Thapa (2011); Black and Crabtree (2007); Bohdanowicz (2006); Dief and Font (2012); Erdogan and Baris (2007); Le et al. (2006); Lesar, Weaver, and Gardiner (2016); Mensah (2006); Millar and Baloglu (2011); Nicholls and Kang (2012); Yee, Amran, and Yen Nee (2014)
12. Education Tools[a]	• Internal Education Tools • External outreach tools	• Save our Snow Campaign	Bohdanowicz (2006); Black and Crabtree (2007); Bohdanowicz and Zientara (2008); Bohdanowicz, Simanic, and Martinac (2004); Carmody (2013); Dodds and Kuehnel (2010); GSTC (2017); Lesar, Weaver, and Gardiner (2016); Marion and Reid (2007); Smerecnik and Andersen (2011)
13. Employee Training Tools[a]	• Internal training tools • External (Professional Accreditation)	• Guide Accreditation	Gil, Jiménez, and Lorente (2001); Black (2007); Black and Weiler (2005); Bohdanowicz and Zientara (2008); Bohdanowicz, Simanic, and Martinac (2004); Carmody (2013); GSTC (2017); Honey and Stewart (2002); Honey and Rome (2001); Lesar, Weaver, and Gardiner (2016); Smerecnik and Andersen (2011); STI (2018a)
14. Best Practice Guidance Manuals	• Industry Guidance Manuals for Hotels	• International Hotels Environment Initiative (IHEI)	Black and Crabtree (2007); Bohdanowicz (2006); Dodds and Joppe (2005); Honey and Stewart (2002); ITP (2018); Synergy (2000); UNCSD (n.d.)
15. Consultancy	• –	• Sustainable Travel International	Ayuso (2007); Black and Crabtree (2007); Honey and Rome (2001); Lesar, Weaver, and Gardiner (2016); STI (2018b)

[a]Terminology specified.
[b]Terminology introduced.

introduced. Selected variations are drawn on where necessary to explain each Type as per the Type distinction criteria 1-3 (refer to subsection "Diversity by Type").

Recognition programs. *Recognition Programs* acknowledge sustainability-related practices, performances, and/or certification(s) and award(s), thereby enhancing marketplace prestige. As such, they exemplify a hybrid of two "classic" Types (certification programs and awards), offering characteristics of each but being ultimately distinct. Similar to awards and certification programs, recognition programs recognize achievement of sustainability progress and/or performances as per a prescribed set of requirements, and recognition is signified via marketing hardware. However, they differ from awards in not being as exclusive or ephemeral; any business that complies with prescribed requirements gains recognition, and the period of validity lasts longer than one year (criterion 1: conceptualization).

TripAdvisor's GreenLeaders program, an exemplar, emphasizes that any accommodation meeting prescribed requirements gains recognition, which can be renewed biannually:

> GreenLeaders are *properties that meet basic requirements* of the TripAdvisor Greenleaders Program—including having *seven required green practices in place—and achieve a minimum score of 30% on the Green Practices survey*. These properties receive a TripAdvisor *GreenLeader badge* on TripAdvisor . . . participants must *reapply every two years*. (TripAdvisor 2018, emphasis added)

Recognition programs differ from certification programs in not involving third-party verification prior to awarding recognition. As per underlying conformity assessment logic, certification programs are conceptualized as external systems, involving third-party verification prior to granting certification and logo use (Font 2002; Toth 2002). This does not occur in GreenLeaders, where applicants "sign up for free by completing a survey," "there is no third-party verification," but usually first- or second-party verification (criterion 1: conceptualization) (Park and Millar 2016, p. 5). Recognition programs and certification programs further diverge in their primary functions as advancing prestige conferral and management, respectively (criterion 2: function). Certification programs are conceptualized as tools to *manage* sustainability progress throughout business operations (Honey 2007; Honey and Rome 2001), whereas GreenLeaders "promotes" sustainability practices (TripAdvisor 2018). Finally, recognition programs and certification programs diverge in QCT structures; the latter is more procedurally rigorous, involving a comprehensive bundle of QCTs (criterion 3: QCT structures) (DestiNet 2014; Markovic and Petrovic 2013; Park and Millar 2016; Ski Area Citizens Coalition 2013; TripAdvisor 2015; Yu, Li, and Jai 2017). For example, GreenLeaders requires completion of "seven required practices, such as "track energy on a regular basis" and "use [of] at least 75 percent energy-efficient light bulbs" (Hasek 2013, p. 1, as cited in Park and Millar 2016, p. 5) whereas the certification program EarthCheck requires the development and documentation of an "Environmental and Sustainability Policy," "Benchmarking Assessments," "Risk Assessment, Environmental Action Plan and Environmental Management System," and "demonstrate compliance through an Onsite Certification Audit" (EC3 Global 2018).

Management systems. *Management systems* offer a systematic methodology to organize, measure, monitor, evaluate, and improve sustainability management. Predicated on the Deming Model (Plan-Do-Act-Review), they offer a cyclical, comprehensive, systematic, and documentation-centric approach to sustainability management (criterion 2: function) and continuous improvement (criterion 1: conceptualization). Management systems use a comprehensive bundle of formalized QCTs with diverse functions for progressing sustainability (e.g., environmental programs, policies, employee training tools, resource accounting tools, best practices) to systematically actualize, organize, measure, assess, and monitor sustainability management and continuously improve sustainability progress (criterion 3: QCT structures) (Ayuso 2007; Best and Thapa 2011, 2013; Black and Crabtree 2007; Honey 2002; Dief and Font 2012; González-Benito and González-Benito 2006; Videira et al. 2006; Tinsley 2001; STI 2017). Environmental management systems are a variation widely referenced in the literature (emphasis added to reflect Type distinction criteria and individual QCT bundled within, respectively, denoted in parentheses and brackets):

> Environmental management system . . . a system that helps companies identify and *manage* environmental issues related to their operations (criterion 2: function) *in a holistic and consistent way* . . . reflect the extent to which a company has modified its systems and structures to accommodate an *environmental program* [QCT], which defines an *environmental policy* [QCT], establishes environmental objectives and targets, *evaluates* the firm's environmental *performance on a regular basis* [QCT] (criterion 3: QCT structures) . . . they set the *mechanism to improve environmental performance in a systematised and structured manner* (criterion 1: conceptualization). (González-Benito and González-Benito 2006, as cited in Dief and Font 2012, p. 116, emphasis added)

Environmental programs. *Environmental programs* offer documented methodologies for reducing consumption of resources such as waste, water, and energy. They entail a linear approach to "environmental management" (Best and Thapa 2011, p. 156) (criterion 2: function). Comparably less robust than environmental management systems, they use "environmental policy and planned actions" to organize progress, resource accounting tools to measure resource use, and best practices or "actions to reduce consumption of resources" to actualize progress (Best and Thapa 2011,

p. 156) (criterion 1: conceptualization; criterion 3: QCT structures) (Best and Thapa 2013; Dief and Font 2012; Needham and Little 2013; Tinsley 2001).

Performance reporting standards. *Performance reporting standards* prescribe standards and guidelines for reporting sustainability progress (criterion 2: function) and performance in a comprehensive, documented report (criterion 1: conceptualization). They use various QCTs, including those for sustainability management, measurement, monitoring, and reporting, guidance and capacity building, and assessment (criterion 3: QCT structures). Notable variations gaining momentum in industry practice and the literature include Corporate Social Responsibility (CSR) Reporting Standards (Assaf, Josiassen, and Cvelbar 2012; Bonilla-Priego, Font, and Pacheco-Olivares 2014; Buckley 2012; Font et al. 2012), and Resource Accounting and Reporting Standards (De Grosbois and Fennell 2011). CSR Reporting Standards indicate what to report, but not necessarily how to holistically integrate sustainability management techniques into operations. Some however may offer guidance on "the development of specific performance indicators" (Bonilla-Priego, Font, and Pacheco-Olivares 2014, p. 150) to measure and report progress. The Global Reporting Initiative (GRI) is an exemplar. Resource accounting and reporting standards provide a methodology to calculate resource use and establish reporting guidelines for voluntary disclosure, offering targeted, in-depth resource accounting (De Grosbois and Fennell 2011). This is also exemplified by the Greenhouse Gas (GHG) Protocol, whose Corporate Standard offers an "approach to identify and classify relevant GHG emissions and emission releasing activities. It addresses the *accounting* and *reporting* of the six greenhouse gases covered by the Kyoto Protocol" (De Grosbois and Fennell 2011, p. 232, emphasis added).

This Type differs from certification programs in not providing a framework for sustainability *management*, but rather for how to *report* progress already achieved (i.e., diverge by criterion 2, function). Moreover, these tools offer businesses the *option* to verify their conformance to the reporting standard, but not the content of what is reported (i.e., diverge by distinction criterion 1). For example, the GRI "validates the level of disclosure achieved, but fails to require external audits" (Bonilla-Priego, Font, and Pacheco-Olivares 2014, p. 150). Similarly, they diverge in QCT structures, as certification programs entail more comprehensive mechanisms for ongoing sustainability management and progress, whereas performance reporting standards employ QCTs specifically focused on reporting but not actualizing progress (criterion 3: QCT structures) (Bohdanowicz and Martinac 2007; Bonilla-Priego, Font, and Pacheco-Olivares 2014; Buckley 2012; De Grosbois 2012; De Grosbois and Fennell 2011; Dodds and Kuehnel 2010; Font et al. 2012).

Performance monitoring and reporting systems. *Performance monitoring and reporting systems* facilitate sustainability performance monitoring (criterion 2: function), offering an interface whereby users calculate aggregate resource use across various TBL parameters, monitor and evaluate progress, and use this to inform continuous improvement and reporting (criterion 1: conceptualization). They allow users to calculate sustainability performances across measurable metrics, and monitor their standing relative to peer group usage (i.e., benchmarking). Databases often house performance data, which are continuously monitored over specified time frames and used for sustainability progress reporting internally (i.e., intraorganizational) and/or externally (i.e., stakeholders and investors). They use selected QCTs for assessment, measurement, monitoring and reporting, and guidance and capacity building (criterion 3: QCT structures). Performance benchmarking and reporting systems exemplify an internally administered variation, also common to global hotel corporations (Bohdanowicz, Zientara, and Novotna 2011).

Hilton's illustrative LightStay program is tied to corporate intranet systems, where hoteliers calculate, monitor, and report their performances using various sustainability performance metrics. An incipient, Hilton Environmental Reporting (HER) is an "internal reporting system for monitoring environmental performance" entailing a "computerised system through which Hilton hotels from Europe monthly reported their resource consumption (energy, water) and operational factors such as guest nights and food covers sold" (Bohdanowicz, Zientara, and Novotna 2011, p. 805). The information collected enabled property-to-property comparisons across the region (Bohdanowicz, Zientara, and Novotna 2011).

Lightstay has been described as a "state-of-the-art, in-house corporate responsibility *measurement platform* . . . serves as a comprehensive, one-solution platform for all environmental, operational and social impact *reporting*" (Green Hotelier 2015). Ultimately, these tools facilitate performance monitoring within the corporation at large, housing performance data for sustainability progress reporting (Bohdanowicz, Zientara, and Novotna 2011).

Resource accounting tools. *Resource accounting tools* facilitate resource measurement (criterion 2: function), providing the necessary data for performance reporting standards, monitoring tools, reporting tools, and performance monitoring and reporting systems. They offer a less comprehensive approach to resource accounting than performance reporting standards as they do not set forth a framework for resource accounting practices nor include guidelines for external reporting (criterion 1: conceptualization; criterion 3: QCT structures). For example, the variation "performance indicators" can be used as singular tools, or "information sets or *measurements* that are selected to be used on a regular basis to *measure* changes that are of importance " (Black and Crabtree 2007, p. 21). Moreover,

> In the context of sustainable tourism development, sustainability indicators are information sets that are formally selected for

> regular use to measure changes in assets and issues. (Vereczi 2007, p. 103)

Accordingly, these resource accounting tool variations often provide the necessary inputs for subsequent monitoring and reporting, serving as "signals of current issues, emerging situations or problems, the need or otherwise for action" (Vereczi 2007, p. 103). Resource accounting tool variations include the aforementioned performance indicators and resource footprint calculators. These diverge in their mechanics, offering precise (performance indicators) and sometimes superficial, albeit aggregate (resource footprint calculators) methods for resource accounting (Ayuso 2006, 2007; Black and Crabtree 2007; De Grosbois and Fennell 2011; Toth 2006).

Best practices. *Best practices* are exemplary singular actions that progress sustainability (criterion 1: conceptualization, criterion 3: QCT structures). These include "automatic run-off taps to save water" (Le et al. 2006, p. 556), "energy efficient light bulbs in guest rooms," "water-efficient fixtures in guest bathrooms," "proper disposal of waste," "donation of used hotel furniture and equipment," and "sorting and recycling of waste in office space" (Nicholls and Kang 2012, p. 968). Interchangeability with "environmentally friendly practices" (Le et al. 2006, p. 556) and "green practices" (Nicholls and Kang 2012, p. 961; Rahman, Reynolds, and Svaren 2012, p. 720) indicates a high level of semantic promiscuity. Best practices allow businesses to build capacity for sustainability progress toward a broad outcome (e.g., waste minimization) (criterion 2: function) (Gil, Jiménez, and Lorente 2001; Ayuso 2006, 2007; Black and Crabtree 2007; Bohdanowicz 2006; Dief and Font 2012; Erdogan and Baris 2007; Le et al. 2006; Mensah 2006; Nicholls and Kang 2012; Yee, Amran, and Yen Nee 2014).

Education tools. *Education tools* facilitate extra-organizational knowledge-sharing to build capacity for sustainability (criterion 2: function), increasing understanding and awareness of TBL environments (i.e., education surrounding natural and cultural environments), and/or sustainability stewardship among patrons or community:

> Tourism providers . . . commonly employ education programmes to address visitation-related impairments of natural and cultural resources, social conditions, and neighbouring communities . . . , [which] . . . share common objectives: to sustain opportunities for high quality visitor experiences while avoiding or minimising associated negative impacts to protected area resources, visitor experiences and park neighbours. (Marion and Reid 2007, p. 5)

Education tools can involve educational and outreach initiatives (criterion 3: QCT structures) such as those aligned with the "Leave No Trace" principles (Marion and Reid 2007, p. 5). More broadly, this can similarly involve a company's support for externally administered activities or awareness campaigns. The educational seminars provided by the "Protect our Winter's" campaign (protectourwinters.org) are illustrative. These QCTs ultimately build capacity for industry sustainability through education and awareness (criterion 1: conceptualization) (Bohdanowicz 2006; Marion and Reid 2007; Smerecnik and Andersen 2011).

Employee training tools. *Employee training tools* facilitate intraorganizational knowledge building in sustainability-related issues (criterion 1: conceptualization). They also build intra-organizational capacity for practical implementation, equipping employees with position-appropriate sustainability knowledge and skills (criterion 2: function). They build internal capacity through guidance measures such as sustainability training or professional sustainability accreditations (criterion 3: QCT structures). As such, sustainability training and professional opportunities may be provided by affiliate corporations, NGOs, or other industry organizations and private enterprises (Best and Thapa 2013). Professional accreditation is a common variation (see Black 2007), as are other professional training programs such as the GSTC's Sustainable Tourism Training program (Black 2007; Black and Weiler 2005; Bohdanowic 2006; Bohdanowicz, Simanic, and Martinac 2004; Carmody 2013; GSTC 2017; Honey and Rome 2001; Honey and Stewart 2002; Smerecnik and Andersen 2011).

Illustrative is Savannah Guides Limited, a network of Australian tour operators and guides providing "professional development schools," or "intensive training schools [that] foster high standards of tour guiding and protection of the natural and cultural environment of northern Australia" (Carmody 2013, p. 680). Foundational aspects include "elements of continuous learning, practical training, mentoring certification and standards of professionalism" (Carmody 2013, p. 680). These "professional development schools have the ability to close the gap between guiding as a profession and the protection of the natural and cultural environment," thereby perpetuating TBL ideals (Carmody 2013, p. 680). Similarly, Sustainable Travel International (STI) through their "Training Local Communities and Destination Leaders" program allows practitioners to outsource employee and professional training (STI 2018a).

Best practice guidance manuals. *Best practice guidance manuals* assist businesses to build sustainability capacity (criterion 2: function) through compilations of exemplary practices, indicators, and technical guidance (criterion 3: QCT structures) (criterion 1: conceptualization). As such, they are more robust than best practices, which are singular actions. Best practice guidance manuals entail numerous best practices in one compilation, in addition to other tools such as indicators and technical guidance (i.e., diverging by distinction criterion 3: QCT structures). They also provide additional guidance to

enhance businesses' technical capacity for sustainability and its practical application, articulating what sustainability in tourism entails, equipping businesses with information to progress accordingly, and sometimes providing case studies (Black and Crabtree 2007; Bohdanowicz 2006; Dodds and Joppe 2005; Honey and Stewart 2002; Synergy 2000). Best practice guidance manuals enable businesses to select practices deemed suitable for their specific situation, thus fostering "ad hoc" adoption of sustainability best practices. They are often externally offered by industry organizations (Black and Crabtree 2007; Bohdanowicz 2006; Dodds and Joppe 2005; Honey and Stewart 2002; Synergy 2000).

The exemplary International Hotels Environmental Initiative (IHEI) "develops hotel specific environmental information," to foster a "non-competitive, self-help approach for use by the wider industry" (United Nations Commission on Sustainable Development n.d.). IHEI, now superseded by the International Tourism Partnership (ITP), continues a "non-competitive platform to share knowledge and resources, develop policies and actively implement programmes and initiatives that have a positive impact on economic, social, and environmental issues." ITP provides case studies to "demonstrate that economic, social, and environmental benefits are possible through practical action" (ITP 2018).

Consultancy. *Consultancy* entails expert advice on company-specific sustainability issues, emphasizing improvement (criterion 1: conceptualization) and building internal capacity (criterion 2: function). Consultants may conduct external evaluations of existing operations to determine subsequent steps for improvement, but this is not inherent to all consultancy (criterion 3: QCT structures). While implicated in certification programs (i.e., for extra assistance) (Honey 2002), administrators of the latter are also transitioning toward offering consultancy outside this context, as demonstrated by EC3 Global and Sustainable Travel International (Ayuso 2007; Black and Crabtree 2007; Honey 2002; Honey and Rome 2001; STI 2017). The latter provides sustainability solutions for destinations and businesses, including initiatives for "industry leadership," "supply chain management," and "customer engagement" (STI 2018b), providing diverse tools, sustainability solutions, and expert guidance for implementation and management.

QCT Diversity by Theme: Variability Parameters

The following introduces the six new variability parameters and affiliated critical subparameters. Table 3 provides the conceptualization and literature evidence for each; italicized text conveys corresponding data relating to each variability parameter and its critical subparameters. Following the same format, the appendix provides an elaborated version.

Triple bottom line focus. QCTs vary by their *TBL focus*. For example, certification programs are holistic, addressing all three dimensions (Bricker and Shultz 2011; Honey 2002). Environmental certification programs such as the Green Tourism Business Scheme emphasize environmental considerations but also implicate economic impacts through realized eco-savings (Dunk, Gillespie, and MacLeod 2016; Font and Harris 2004; Sampaio, Thomas, and Font 2012). Some QCTs address one TBL consideration partially, as with waste management policies addressing one subdimension of the environmental TBL (waste). QCTs, in principle, can therefore have subthemes of *multidimensionality* (attending all TBL considerations), *bidimensionality*, or *unidimensionality* (Dief and Font 2012; Font and Harris 2004).

Industry applicability. Some QCTs are designed for businesses with specific operating characteristics (Black and Crabtree 2007; Font and Buckley 2001; Honey 2002; Mason and Mowforth 1996; Nicholls and Kang 2012; Park and Millar 2016; Sasidaharan, Sirakaya, and Kerstetter 2002). Costa Rica's Certification for Sustainable Tourism, for example, is specific to Costa Rican accommodations (DestiNet 2014), while Green Globe certification is global (Parsons and Grant 2007); LEED certification is designed for any USA-based business (Millar and Baloglu 2011), the Sustainable Slopes program targets North American ski resorts (Needham and Little 2013; Smerecnik and Andersen 2011), and the Hotel Investment Conference Asia Pacific Sustainable Hotel award is Asia-Pacific specific (Weaver et al. 2013). Accordingly, *industry applicability* refers to specified operating characteristics pertinent to *geography, industry, sector*, and/or *size* subparameters, as illustrated by the featured passages in the appendix.

Administering organization. QCTs vary by the *administrating organization* responsible for development and management (Font and Buckley 2001). EarthCheck certification is illustrative; EC3 Global administers the actual program, yet it is designed for tourism businesses external to and independent of their organization (Weaver and Lawton 2014). In contrast, Hilton's "we care!" program is administered by Hilton Corporation for exclusive affiliate use (Bohdanowicz, Zientara, and Novotna 2011). *External QCTs* are managed by organizations independent of the tourism businesses, or their affiliated corporations, for which their use is intended, such as EarthCheck. Notably, many QCTs emphasized in the literature are external QCTs (e.g., Bricker and Schultz 2011; Carasuk, Becken, and Hughley 2013; Font and Buckley 2001; Nicholls and Kang 2012; Park and Millar 2016; Weaver et al. 2013). *Internal QCTs* are administered by the businesses themselves and/or their affiliate corporation, and like Hilton's Lightstay are intraorganizational (Bohdanowicz and Zientara 2008).

Table 3. Quality Control Tool Diversity by Theme: Variability Parameters, Conceptualization, and Illustrative Quotes.

Theme	Conceptualization	Exemplar Passages and References (emphasis added in italic)
Triple Bottom Line Focus	QCTs vary by the TBL focus they emphasize, ranging from holistic (addressing three TBL dimensions), bidimensional (two TBL dimensions), to unidimensional (one TBL dimension such as environmental, or a sub-dimension thereof, such as recycling).	"*Environmental and social tourism certification programs* have been around for over two decades. (Buckley 2013 as cited in Dunk, Gillespie, and MacLeod 2016, p. 1586)
Industry Applicability	QCTs vary by the degree to which they are designed for businesses with specific operating characteristics as relating to geography, industry, sector, and/or size.	In the last decade a number of dedicated environmental awards in tourism have been instigated . . . *some international in coverage, others sector-specific*. (Toplis 2007, p. 33) There are numerous certification and ecolabeling programs at the *regional, national and international level*. (Graci and Dodds 2015, p. 201)
Administering Organization	QCTs vary by the entity responsible for development and management. Some businesses design their own QCTs for internal use, while others are designed by an organization independent of the adopting business.	Large tourism businesses, such as the *Hilton group have initiated their own schemes* (we care!). (Dunk, Gillespie, and MacLeod 2016, p. 1586) Codes of conduct *for the tourism industry – the tour operators, airlines, travel agents, hoteliers, restauranteurs and others – do not always come from within the industry itself*. Many *relevant sets of guidelines originate from government*, and within the last decade others have been devised by *NGOs and individuals*. (Mason and Mowforth 1996, p. 154)
Mechanics	QCTs vary by the 'nuts and bolts' of QCT programmatic design.	T*ourism certification programs* can be divided into two *methodologies*: (1) *process based* using environmental management systems or (2) *performance-based* using environmental and usually sociocultural and economic criteria or benchmarks. (Honey 2002, p. 53). The Himalayan Code is a good example of a *teleological* code. (Mason 2007, p. 50).
Function	How each QCT primarily advances sustainability progress, including tools for sustainability management, prestige conferral, assessment, measurement, monitoring and reporting, and guidance and capacity building.	*Environmental management system* (EMS); a system that helps companies identify and *manage* consequences and issues related to their *operations* in a *holistic and consistent way*. (Dief and Font 2012, p. 114) *Award programmes* facilitate *recognition* and *reward* of *innovative practices* creating industry benchmarks for world-class standards. (Weaver et al. 2013, p. 15) *Awards* . . . are *highly visible initiatives* sponsored by reputable and well-known entities attracting the attention of innovative and aspirational applicants, *displaying exemplary practices in a highly competitive selection process*. The most *meritorious performer(s) is ultimately identified* and may earn substantial cash price or other incentives, often *conferred during a highly publicized award ceremony*. (Font and Tribe 2001) The *winner* can afterwards *continue to cite this achievement as evidence of their environmental or social credentials*. . . . Applicants to sustainability award schemes, presumable, regard their practices as sufficiently innovative and extensive *to merit recognition*. (Weaver et al. 2013, p. 18)
Conformance Structure	QCTs vary by the framework of sustainability progress offered and the degree to which mechanisms exist to assure adherence to these frameworks.	Codes of conduct . . . rudimentary quality control mechanisms that are often criticized for their vagueness and *self-regulation*, but are also supported for . . . *providing broad directives for operators in an unthreatening manner*. (Weaver 2001 as cited in Black and Crabtree 2007, p. 503) Policy . . . *citations of good practice by the company itself*, which provide scant basis for objective assessment. (Weaver 2006, p. 111)

Mechanics. Early QCT literature, largely conceptual, explanatory, and evaluative, highlights the inherent complexities of the "nuts and bolts" or *mechanics* of QCT programmatic design, which include *standard methodologies* (i.e., process-based, performance-based, and hybrid, teleological vs. deontological codes), *assessment methods* (on-site vs. remote), *membership structures* (e.g., one-time or continuous application and/or enrollment [fees]), rating systems (i.e., criteria and point gradations), *methods of recognition* of superior sustainable tourism practice (i.e., hierarchal, pass/fail, or membership), *resource accounting methodologies* (i.e., type 1, 2, 3 emissions, indirect/induced impacts); and *sustainability management methods* (hardware-centric [operational management] vs. software-centric [organizational management]) (Black and Crabtree 2007; Blangy and Epler Wood 1993; Buckley 2002; Bien 2006; De Grosbois and Fennell 2011; ECOTRANS 2012; Dief and Font 2012; Font 2001; Graci and Dodds 2015; Honey 2002, 2007; Mason 2007; Mason and Mowforth 1996; Synergy 2000; Toth 2002, 2006).

Function. QCTs vary by how they primarily advance sustainability progress (Lesar, Weaver, and Gardiner 2016). Awards are *prestige-conferring* mechanisms highlighting sustainability achievements to the market (Font and Buckley 2001; Font and Tribe 2001; Weaver 2006; Weaver et al. 2013), while *capacity-building* for sustainability is facilitated through codes of conduct and education (Mason 2007; Mason and Mowforth 1996; Weaver 2006). Management systems and variations (e.g., EMS) assist sustainability *management* (Chan 2008; Dief and Font 2012; Diamantis and Westlake 1997; Mensah 2014; Tinsley 2001), while performance indicators *measure* sustainability progress and permit *monitoring* (Ayuso 2007; Black and Crabtree 2007; Toth 2006). The CSR literature revealed that the Global Reporting Initiative (GRI) entails standards for sustainability *reporting*, whereas the Greenhouse Gas Initiative permits the same (Buckley 2012; De Grosbois and Fennell 2011; Dodds and Joppe 2005). Ultimately, function revealed the five subthemes of (1) management; (2) prestige-conferral; (3) assessment; (4) measurement, monitoring, and reporting; and (5) guidance and capacity building, as exemplified by the passages in the appendix.

Notably, while each QCT primarily advances a given function, they may also possess augmenting secondary functions (Lesar, Weaver, and Gardiner 2016). For example, certification programs also entail mechanisms that facilitate assessments of sustainability progress. However, assessment mechanisms ultimately contribute to its primary function of sustainability management (Black and Crabtree 2007; Honey 2007; Honey and Rome 2001). This study focuses on primary function given the extreme complexity of its secondary counterparts.

Conformance structure. QCTs vary by sustainability progress framework and the degree to which mechanisms exist to ensure adherence. Certification programs offer a comprehensive, prescribed standard. Extensive external oversight pertains as verification of conformance is compulsory, and most require continual performance monitoring to ensure ongoing compliance to stated claims through annual reports or periodic verification (Bien 2006; Font 2002; Honey 2007; Toth 2002). They offer minimal flexibility in that deviation from prescribed baseline requirements jeopardizes certification (Honey 2007). They manifest therefore as *highly structured* QCTs. In contrast, policies exemplify *flexible* QCTs that can be opportunistically adopted or modified at business discretion, lack a prescribed adherence framework, and do not require independent verification of conformance (Weaver 2006). Codes of conduct are a *semistructured* QCT; businesses commit to implementing a specified array of code directives, but users are not usually subject to independent verification (Mason 2007; Mason and Mowforth 1996; Weaver 2006).

Other QCTs offer a comprehensive, prescribed framework that entails systematic and documented sustainable tourism practice, though independent verification of conformance is variable, and sometimes optional. The Global Reporting Initiative standards offer a prescribed framework of detailed CSR reporting guidelines to be followed systematically, but allow users to independently verify adherence (De Grosbois and Font 2011; GRI 2016). Thus, they are an *optional highly structured* QCT. (The Appendix illustrates these in order from highly structured to flexible.)

Discussion

Evolution of QCT Theory and Practice

This research, the first to extract, aggregate and articulate the diversity of the contemporary QCT landscape, fills a major gap in the literature by revealing the latter as far more diverse and complex than previously envisaged. This is important given that QCTs are the essential elements of sustainable tourism practice, positioning as the "vehicles" through which tangible progress, such as energy reduction, is achieved. The identified 15 Types and numerous variations progress well beyond the four Types proposed by Weaver (2006). Figure 4 shows this evolution of QCT theory from the Spectrum of Weaver (2006) to our emergent multiverse. "Multiverse" here, by way of potential semantic shift, amalgamates two less well-known uses of the term that capture the attendant dynamics as discussed below; first, it can refer to a universe or realm without a single ruling and guiding power, and second (in mathematical set theory) to a structure that accommodates many equally valid models. Figure 4A symbolizes the original spectrum of Weaver (2006); the single-variability parameter of strength (white triangle) and platform upholds weak to strong QCTs respectively shown as small to large white circles. The platform tilts downwards, as

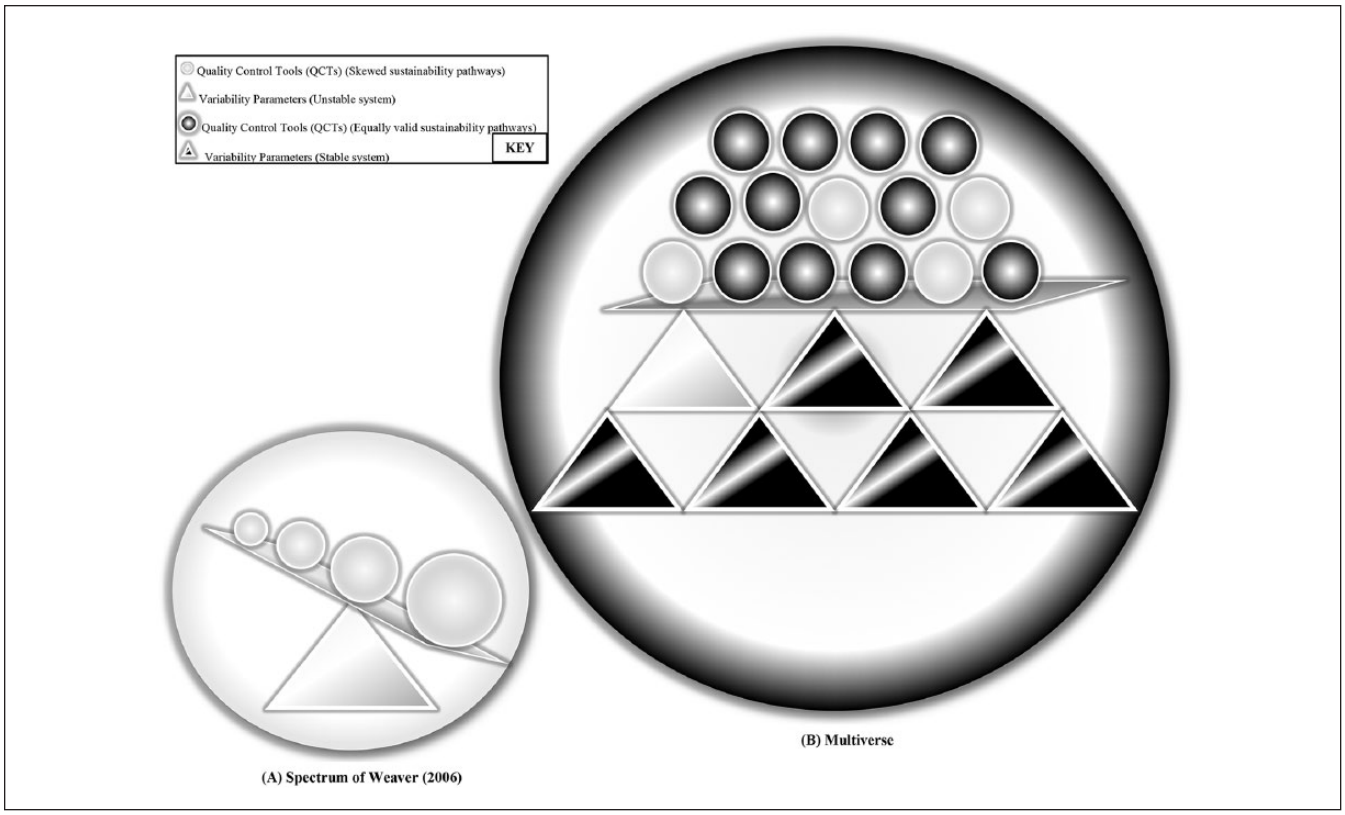

Figure 4. Spectrum to multiverse.

certification programs "weigh" down or skew the spectrum in what may be misguided conventional thinking. Figure 4B conceptualizes the more complex multiverse characterizing contemporary QCT practice. Here, the 15 QCTs are presented in standard size to reflect equally valid pathways for progressing sustainability. The flat platform underpinned by an additional six variability parameters (black triangles) symbolizes increased system stability due to amplified diversity; that is, QCTs vary by many parameters, thereby providing numerous options suiting idiosyncratic business needs, such as those designed for a specific sector or location. We therefore have a diverse, complex array of QCTs available for achieving the aspiration of enlightened mass tourism (Weaver 2014b), rather than relying on one proffered "strong" QCT, thereby enhancing the stability of the overarching nonhierarchical system—or multiverse.

Complexity of Multiverse

Pragmatically, the contemporary multiverse provides a more diverse array of QCTs and variability parameters to engage, enabling greater flexibility and customization in selection and implementation. Innumerable pathways for optimizing sustainability progress by using various QCTs are indicated. For example, businesses can engage sector-specific QCTs to ensure that unique sectoral considerations are embedded within programmatic design, but then use globally applicable QCTs to meet global standards and acquire universal recognition. A business, to illustrate, may adopt a sector-specific code of conduct and commitment (e.g., sustainable slopes program) and also adopt a globally applicable certification program (e.g., EarthCheck). The emergent amplified diversity and resultant complexity ultimately provides a platform for greater optimization and flexibility in progressing TBL ideals.

Complexity of Type Diversity in Contemporary Practice

The contemporary QCT multiverse constitutes a much richer tableaux of options through which the tourism industry can, and apparently does, voluntarily pursue sustainability, revealing previously unacknowledged intricacies. For example, some newly articulated Types blur the lines between the "classic" Types in Weaver (2006). Recognition programs, for example, are hybrids of awards and certification programs, possessing characteristics of each yet remaining distinctive. Real-world QCT practice, accordingly, has less certitude than conveyed in Weaver (2006), and it is probable that new "gray" spaces will appear through subsequent empirical interrogation. Furthermore, such hybrids indicate adaptive evolution. Recognition programs, for example, retain structural components of awards and certification programs beneficial for credibility (i.e., prestige-conferral through marketable logo

and third-party oversight), but modify these to minimize costs associated with initial and ongoing auditing and verification prior to logo use. Such hybridization may prove favorable for QCT administering organization designers, positioning as a strategy to minimize limitations of existing QCT(s) by infusing structural components of one to another as warranted.

Complexity of Theme Diversity in Contemporary Practice

The articulated variability parameters contribute to the literature by further capturing and encapsulating the actual complexities of sustainable tourism theory and practice. The variability parameter of TBL focus reflects the ideals inherent to sustainable tourism. Moreover, consensus exists that sustainable tourism requires distinct interpretations for given contexts (Bramwell et al. 2016; Hunter 1997; Weaver 2006). The variability parameter of industry applicability accordingly refers to QCTs whose application is feasible among businesses operating in specific contexts. Similarly, reflecting sustainable tourism theory and practice, the consensus that different contexts warrant weak, strong, minimalist, or comprehensive sustainable tourism approaches (Hunter 1995, 1997; Weaver 2006) is encapsulated by the variability parameter of strength, which proffers weak QCTs like codes of conduct as modes of incipient business engagement in contexts where stronger Types are deemed too risky but perhaps feasible eventually through strategically escalated involvement. This progression represents sustainability and the QCTs that actualize its progress as a continuous process of transition from status quo to enhancement sustainability, an important consideration from planning and management perspectives (Sharpley 2000; Weaver 2014a). The variability parameter of conformance structure further reflects the relative procedural rigor associated with using these QCTs to advance their associated weak to strong approaches, while function then reflects "how" these QCTs progress a given sustainable tourism approach, for example, through sustainability management (i.e., certification) or capacity building (i.e., codes). The variability parameter of mechanics encapsulates the diverse modes of applying sustainable tourism approaches, as for example, through process, performance, or hybrid sustainability standards (Toth 2002). Recognition by a practitioner of what prerequisites they want or need among the seven variability parameters can therefore facilitate the adoption of a QCT mix that fits this amalgam.

Contemporary QCT Diversity and MAD Syndrome

The revealed diversity of the contemporary QCT landscape provides insight into MAD syndrome. High merit certification programs, commonly valorized as the "obvious" path to sustainability-centric outcomes such as enlightened mass tourism, evince low industry uptake, but businesses apparently progress sustainable tourism ideals alternatively through more diverse means, as evidenced by the additional 11 Types and their numerous variations. Intriguingly, while nomenclature may differ, the newly articulated Types and variations are either identical or at least functionally similar to those bundled within certification programs. For example, GSTC-recognized certification programs require that businesses address sustainability *management* through sustainability management systems and related policies. Businesses also use policies independently, in addition to other QCTs evident in the environmental management literature (Best and Thapa 2013; Dodds and Kuehnel 2010; Needham and Little 2013; Nicholls and Kang 2012). Tourism certification programs also involve *measuring* sustainability progress through indicators and entail the development of codes of conduct for *guidance* and *capacity building* surrounding responsible behaviors. The literature similarly shows independent use outside certification contexts (Ayuso 2006, 2007; Mason 2007). Finally, tourism certification programs include mechanisms for *reporting* progress. The literature shows further that businesses use voluntary mechanisms that enable the same, independent of the certification program (Bohdanowicz and Martinac 2007; Buckley 2012; De Grosbois 2012).

This all suggests the independent, idiosyncratic, and innovative use of disaggregated "ingredients" of tourism certification programs, and the concomitant possibility that businesses are partaking in an opportunistic QCT "buffet." In this restaurant metaphor, tourism certification programs constitute a "set menu" dining experience where patrons select first, second, and third courses from a menu; each course is sequentially delivered and specifically portioned with set accompaniments. Specific timing and structure is implied, as with the certification process of an application period, baseline assessments, and adherence to prescribed hierarchal sustainability requirements within a specified time frame. This set menu contrasts with a buffet dining experience, where the starters, entrees, and desserts are set out simultaneously, and patrons can consume these in the order, pace, portion, timing and combination that best meets their dietary objectives. The intriguing possibility of this "Buffet Effect" provides a useful context to empirically explore the existence of MAD syndrome.

Conclusion

This study employed an inductive qualitative approach to identify the diversity of contemporary QCT practice, orphaned for more than a decade, thereby addressing a substantial gap in the sustainable tourism knowledge domain and establishing a strong basis for subsequent quantitative investigation of the topic. In doing so, it articulated an evolution of QCT theory from unidimensional spectrum (Weaver 2006) to contemporary multiverse. The latter reveals QCTs as far vaster and more complex than hitherto recognized, suggesting they occupy more "space" within the knowledge domain and deserve concomitant attention to understand

better how they individually and collectively contribute to progressing sustainable tourism at the micro (individual business) and macro (destination and global) levels. To this end, future research should consider identifying the diversity of Type(s) used to progress sustainability within actual business or destination contexts to understand why such Type(s) may be used and how they contribute to idiosyncratic needs. Ultimately, continued engagement in this realm positions as a research imperative to reignite this important line of inquiry and enhance our understanding of QCT practice. Our explicit depiction of the contemporary QCT multiverse (Figure 3) and our typology (Table 3) provide a useful foundation.

An associated limitation is that this research, for financial and comprehension reasons, was solely informed by the English-language sustainable tourism literature; that is, a constrained version of the knowledge domain. While the English-language literature is widely acknowledged as projecting the most thorough portrayal of the global QCT landscape, there is a body of untranslated material in other languages that may have yielded additional insights by providing a window into the possibly divergent practices of non-Western cultures and societies. To this end, future research could include these materials, which may enhance this initial literature-based framework.

Appendix. Quality Control Tool Diversity by Theme (Detailed): Variability Parameters, Conceptualizations, and Illustrative Quotes.

Theme	Conceptualization	Passage and Reference (emphases added in italic)
Triple Bottom Line Focus	QCTs vary by the TBL focus they emphasize, ranging from holistic (addressing three TBL dimensions), bidimensional (two TBL dimensions), to unidimensional (one TBL dimension such as environmental, or a subdimension thereof, such as recycling).	In the last decade a number of dedicated *environmental awards* in tourism have been instigated by various organizations worldwide, predominately by government agencies and industry associations, some in partnership with conservation groups, some international in coverage, others sector-specific. (Toplis 2007, p. 33) *Environmental and social tourism certification programs* have been around for over two decades. (Buckley 2013 as cited in Dunk, Gillespie, and MacLeod 2016, p. 1586) *Environmental management system* (EMS); a system that helps companies identify and manage their *environmental issues* and consequences related to their operations in a holistic and consistent way. . . . They reflect the extent to which a company has modified its systems and structures to accommodate and *environmental* program, which defines an *environmental* policy, establishes *environmental* objectives and targets, evaluates the firm's *environmental* performance on a regular basis, delegates *environmental* responsibilities and provides *environmental* training for employees. (Dief and Font 2012)
Industry Applicability	QCTs vary by the degree to which they are designed for businesses with specific operating characteristics as relating to geography, industry, sector, and/or size.	In the last decade a number of dedicated environmental *awards* in tourism have been instigated . . . *some international in coverage, others sector-specific*. (Toplis 2007, p. 33) Green Globe is a *global* tourism certification programme . . . open to *all travel and tourism industry sectors and sizes*. (Parsons and Grant 2007, p. 81) Over 75% of *US ski resorts* signed the *Sustainable Slopes Charter* in 2000 that created guidelines for improved environmental performance, including reforms in planning and design, water use, energy, waste reduction, natural habitat management, education and outreach (Smerecnik and Andersen 2011, p. 173) Most of the approximately 100 *tourism related ecolabels* are *focused on a particular product or region* . . . EC3 Global (www.ec3global.com) is an exception because it encompasses *all tourism products and all regions*, and in doing so is attempting to position itself as the world's primary tourism ecolabel. (Weaver and Lawton 2014, p. 334) *Tourism ecocertification programs* apply to EMP [environmental management performance] in large-scale mainstream tourism *accommodation, transport and activities*. (Buckley 2013, p. 204) There are over 100 ecolabels for tourism, hospitality, and ecotourism, with many of them overlapping in *sector* and *geographical scope*. (Font 2002, p. 197) There are numerous certification and ecolabeling programs at the regional, national and international level. (Graci and Dodds 2015, p. 201) There are many *tourism certification schemes* that relate to sustainability. . . . There are also a number of NGO or *country initiatives* such as the Costa Rican "Certification for Sustainable Tourism," Canada's Green Leaf Eco-Rating Program for Hotels. (Graci and Dodds 2015, p. 202)

(continued)

Appendix. (continued)

Theme	Conceptualization	Passage and Reference (emphases added in italic)
Administering Organization	QCTs vary by the entity responsible for development and management. Some businesses design their own QCTs for internal use, while others are designed by an organization independent of the adopting business.	Large tourism businesses, such as the *Hilton group have initiated their own schemes* (we care!). (Dunk, Gillespie, and MacLeod 2016, p. 1586) Responsible Tourism Qualmark" scheme (RTQ) . . . has the highest number of *accredited businesses . . . RTQ . . . was founded in 1993 as a public-private sector partnership, owned by the Tourism New Zealand and the New Zealand Automobile Association*. (Carasuk, Becken, and Hughley 2013, p. 20) *The International Organization of Standardization (ISO)* also *does certification* although not solely for the tourism industry. ISO developed international standards. . . . These include . . . ISO 14001 for environmental management . . . ISO 26000 for social responsibility and ISO 50001 for energy management. Even though ISO is not specific to tourism, many *tourism organizations* have adopted this certification. (Graci and Dodds 2015, p. 202) Codes of conduct *for the tourism industry – the tour operators, airlines, travel agents, hoteliers, restauranteurs and others – do not always come from within the industry itself*. Many *relevant sets of guidelines originate from government*, and within the last decade others have been devised by *NGOs and individuals*. (Mason and Mowforth 1996, p. 154)
Mechanics	QCTs vary by the "nuts and bolts" of programmatic design.	*Tourism certification programs* can be divided into two *methodologies*: (1) *process based* using environmental management systems or (2) *performance-based* using environmental and usually sociocultural and economic criteria or benchmarks. (Honey 2002, p. 53) The Himalayan Code is a good example of a *teleological* code. (Mason 2007, p. 50) *Pass/fail certification or classification to different levels* . . . a *graded* certification scheme is better than "*pass/fail*" because it acknowledges a range of differences within an acceptable sustainability framework. . . . A number of sustainable tourism certification programs have two to five levels of classification over and above the minimum requirements for certification. (Bien 2006, p. 16) Currently, there are over 100 certification programs worldwide. These vary in terms of *methods, quality, criteria contents* and scope. (Graci and Dodds 2015, p. 201) Environmental management practices . . . can be generally classified into *two categories: "organizational or software" and "operational or hardware."* (Gil, Jimenez, and Lorente 2001; González-Benito and González-Benito 2006; Saha and Darnton 2005, as cited in Dief and Font 2012, pp. 115–16)

(continued)

Appendix. (continued)

Theme	Conceptualization	Passage and Reference (emphases added in italic)
Function	How each QCT primarily advances sustainability progress, including tools for sustainability management, prestige conferral, assessment, measurement, monitoring and reporting, and guidance and capacity building.	Environmental management system (EMS); a system that helps companies identify and *manage* consequences and issues related to their *operations* in a *holistic and consistent way*. (Dief and Font 2012, p. 114) Award programmes facilitate *recognition* and *reward* of *innovative practices* creating industry benchmarks for world-class standards. (Weaver et al. 2013, p. 15) Awards . . . are *highly visible initiatives* sponsored by reputable and well-known entities attracting the attention of innovative and aspirational applicants, *displaying exemplary practices in a highly competitive selection process*. The most *meritorious performer(s) is ultimately identified* and may earn substantial cash price or other incentives, often *conferred during a highly publicized award ceremony* (Font and Tribe 2001). . . . The *winner* can afterwards *continue to cite this achievement as evidence of their environmental or social credentials*. . . . Applicants to sustainability award schemes, presumable, regard their practices as sufficiently innovative and extensive *to merit recognition*. (Weaver et al. 2013, p. 18). [An] Audit is a systematic, documented, periodic and objective *evaluation* and verification of how well a particular entity (company, product, program, individual, destination, etc.) is doing compared with a set of standards. (Honey and Rome 2001, p. 5) Using the visitor code for the Arctic region as an example, among the aims entail, "*to educate visitors*." . . . Although codes for visitors may have specific objectives, in general they attempt to *promote a more responsible form of tourism*. (Mason and Mowforth 1996, p. 152) Codes should be used as part of an *education process*. . . . Codes usually *indicate forms of appropriate (or indeed inappropriate) conduct* and hence they can be set within the context of ethics. (Mason 2007, pp. 46–47) The importance of carbon footprint *calculations* and *reporting* is widely recognized among business practitioners and in academic and resulted in a number of standards and recommendations, such as the *GHG Protocol Initiative*. (WRI 2004 as cited in De Grosbois and Fennel 2011, p. 232) Some of the most internationally recognized standards for *accounting and reporting* of GHG emissions at the corporate level include: *The Greenhouse Gas Protocol Corporate Standard* developed by the World Resources Institute and the World Business Council for Sustainable Development and the Carbon Trust Standard. They are complemented by the ISO (International Organization for Standardization 14040 and 14064 series standards; and the PAS 2050 standard which are used to *measure* carbon footprint of products. Also regarding organizations, the Global Reporting Initiative (GRI 2016) defined broadly applied reporting standards that also include carbon emissions. (De Grosbois and Fennell 2011, p. 232)
Conformance Structure	QCTs vary by the framework of sustainability progress offered and the degree to which mechanisms exist to assure adherence to these frameworks.	Certification is a voluntary procedure that assesses, monitors and gives written assurance that a business, product, process or service or management system *conforms to specific requirements*. It *awards a marketable logo or seal to those that meet or exceed baseline standards*, i.e., those that *at a minimum comply with national and regional regulations*, and typically, *fulfill other declared* or negotiated standards *prescribed by the program*. (Honey and Rome 2001, p. 5) [The] Global Reporting Initiative [GRI] . . . validates the level of disclosure achieved, but *fails to require external audits*. (Bonilla-Priego, Font, and Pacheco-Olivares 2014, p. 150) Codes of conduct . . . rudimentary quality control mechanisms that are often criticized for their vagueness and *self-regulation*, but are also supported for . . . *providing broad directives for operators in an unthreatening manner*. (Weaver 2001, as cited in Black and Crabtree 2007, p. 503) Policy . . . *citations of good practice by the company itself*, which provide scant basis for objective assessment. (Weaver 2006, p. 111)

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