Original Article

Charting production systems for golf and club operations

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ABSTRACT This paper presents a process used to develop visual representations of production systems that were developed through an informal qualitative study at eight large golf clubs in North America. It argues that the actual mapping of specific production systems is underreported in the hospitality literature. The qualitative methodology and findings of the study are discussed. The paper concludes with relevant implications for educators, trainers and hospitality management practitioners.

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INTRODUCTION

The hospitality and business literature are replete with findings concerning the measurement and importance of productivity (Sigala and

Mylonakis, 2005). However, there appears to be an absence of specific models to conceptualise actual production processes within golf and club organisations. It has been suggested that production models for hospitality operations including those for foodservice production are too broadly depicted for direct operational applications (Cousins and Foskett, 1989). In fact, one study questions whether service productivity is a viable concept at all (Gummesson, 1998). A number of reports, however, do emphasise the importance of measuring productivity through analysing production systems.

The majority of studies focus on the economic aspects of productivity measurement (Reynolds, 2003). There is consensus among researchers that productivity is defined as a ratio measurement between efficiency and effectiveness, with some arguing for emphasis on one or another side of the equation (Kilic and Okumus, 2005; Rodgers, 2005; Sigala *et al*, 2005). Other studies identify narrow areas of influence on production processes and productivity, such as quality, innovation and human capital aspects (Messenger and Atkins, 1994; Peters and Sparrow, 1994; Avkiran, 2002; Ottenbacher and Harrington, 2007).

Business schools provide broad models of production systems to include inputs, transformation processes and outputs. These could be considered to be sufficient representations for manufacturing settings that provide streamlined processes to include assembly, packaging and delivery of products. Enterprises in the business services sector, such as financial services follow the same basic model. This is however, not the case for all sectors within the hospitality industry. In fact, hospitality management programs provide industry-specific business instruction to prepare individuals to manage performance in highly complex service environments. Yet, the concepts of production processes are perceived as ambiguous in the minds of many practicing managers (Ingram and Fraenkel, 2006). This case was found to be true among managers at eight large golf clubs, which provided the setting of a 4-month study.

This paper presents the findings of a field study conducted in collaboration with managers at these clubs using action research methods. It provides a discussion of action research and describes the process and outcomes of the qualitative study. The paper concludes with implications for hospitality educators, trainers and managers.

ACTION RESEARCH

Social scientist Kurt Lewin is credited with departing from earlier research practices by engaging subjects of change initiatives to encourage them to understand and participate in intervention processes; a research approach in which the subjects were active, hence the term, *action research* (Forrester, 2000). The later theoretical work of Douglas McGregor spawned numerous action research experiments in the area of participative management which eventually evolved into employee empowerment studies that continue to this day (Forrester, 2000). One report suggests four elements as being associated with action research processes to include: (1) research in action, as opposed to research about action; (2) participation; (3) concurrent information acquired during the

action and (4) a sequence of events toward problem solving outcomes (Coughlan, 2004). Although practitioners may choose to learn about interventions through the exclusive use of action research, academics might tend to lean toward quasi-experimental models to measure outcomes. This awareness seems to argue in favour of collaborative initiatives between researchers and practitioners.

One argument describes action research as being focused on knowledge in action, which is in contrast to positivist science with a goal of creating universal knowledge (Susman and Evered, 1978). For this reason, hospitality management schools may recognise the action research method as a pragmatic approach to solving operational problems in organisations (Coughlan and Coughlan, 2002). Hence, one limitation of action research is that the findings are restricted to performing interventions within a single organisation (Susman and Evered, 1978). However, the action research umbrella has expanded over the years to include other methods, such as action learning, appreciative inquiry and ethnomethodology used to study various aspects of workplace interventions (Parker and Roffey, 1997; Williams, 2004). It does seem as though action research is an appropriate method for organisation development (OD) and other management interventions in organisations. This may pose particular implications for hospitality organisations, which are service providers and as such, each experience with a guest (customer) is unique and dynamic. In order to affect change in a hospitality organisation, managers and employees must be involved in the intervention in order to create a learning environment that allows the changes to be adopted. OD practitioners who specialise in this industry are acutely aware of this service-oriented environment, which is also applicable to other service enterprises. It has been asserted that action research has proven its value as both a method for implementation and the development of theoretical insight (Altrichter *et al*, 2002). Some contend that action research is a process that simplifies social change, although reinforcing community and individual quality of life (Pedlar, 1995, as cited in Shaw, 2000). The model suited the collaborative learning nature of a small study undertaken within eight club properties.

THE STUDY

The study engaged junior-to-senior level managers (supervisors, assistant managers, department managers and general managers) who were employed at eight upscale club properties managed by a large corporation. The sample consisted of an aggregate of 66 managers from the eight properties who volunteered to participate in a series of discussion, brainstorming and focus groups to develop service production process diagrams. The purpose of the exercise was to provide visual representations, which can be used by club managers to generate an awareness of production systems as part of productivity enhancement training sessions.

The group met on a weekly basis to review each operating department of the clubs for the purpose of building production conceptualisations through consensus decision-making activities. The overall intervention

lasted for six consecutive weeks. During that time, production systems were mapped for operating areas within each club's department. The accumulated documents were then distributed to work unit managers for use in providing training in the areas of production system awareness for future use as visual tools to enhance productivity. This paper reports the generic findings of the study in the interest of citing those areas of relevance to general academic and practitioner communities.

FINDINGS

The group identified five types of production systems that operate concurrently and repetitively within each physical plant. These include: service transaction systems, maintenance systems, repair systems, distribution systems and product production systems. Each of these systems is directly related to serving external customers (members, guests, clients) or internal customers (individuals serving members, guests and clients). It was agreed that this is the key point that differentiates hospitality service enterprises from manufacturing firms. The relationships of the five types of production systems are depicted in Figure 1.

The group agreed that the service transaction system serves as the hub for the remaining systems, indicating that the maintenance, repairs, delivery and product production systems are subsystems of the service transaction system providing member/guest/client experiences. Hence, service transactions are the outputs that result from each of the four subsystem inputs and transformation processes. It was also agreed that all of the five systems are *production systems*, in that they each produce an outcome for the members/guests/clients or internal customers. However, the only production system that produces actual products is the *product production system*.

The group identified examples of service transaction systems as noted below. The service transaction system is in operation during any touch point with a member/guest/client or internal customer in which there is a conversion process. In a golf club facility, the act of golfer check-in is a conversion process from a vacant to an occupied starting time. When a cart attendant prepares a golf cart, the conversion process is the use of

Figure 1: Production systems relationships.

the cart by the member/guest. When an inquisitive guest is escorted to the clubhouse facilities, the conversion process is guest knowledge about the location and services available within that amenity. When a door attendant hails a taxi, the conversion process is transportation for the guest.

It was determined by the group that all service transactions result in some form of conversion from one state to another, which could be intangible (information processing, knowledge of location and amenities) or tangible (a golf cart, transportation). Service systems comprise the majority of transactions within a service enterprise. It was noted that thousands of these occur in many establishments every day. The service transaction systems relevant to each operating area were visually also mapped by the group.

Maintenance production systems convert unusable space into usable space. In a clubhouse facility this would pertain to public/member areas and locker rooms. In order for a beach club cabana to be placed into available inventory, it must be vacant and clean. Public areas such as lobbies and walkways must be clean and orderly. Banquet and meeting rooms must be set to the specifications of the banquet event order. Grounds must be groomed and free of debris. Golf courses and tennis courts must be prepared for play. The group agreed that maintenance production systems consist of activities of continuous restoration of physical space to standards for member/guest/client use.

As maintenance production systems are cyclical processes, there are three steps taken to complete each conversion. These are pre-preparation, processing and post-preparation. The pre-preparation phase requires human resources, equipment and supplies to be available to the maintenance provider. The transformation process includes the steps required to convert the facility from dirty to clean. The post-preparation phase is to prepare for the next cleaning phase, such as re-stocking a custodial cart for use the next day or refreshing public areas. Maintenance production systems are intensive in terms of human, equipment and supply resources. A facility that is ready for member/guest use within an appropriate timeframe is the output associated with this process.

Repair production systems convert inoperable physical property and equipment into working order. This is the work of skilled trades' people such as carpenters, mechanics, grounds-keeping technicians, painters, plumbers and others. The grounds-keeping function for a golf course is costly in terms of labour, equipment and supplies. In clubhouse facilities, member/guest social areas needing repairs are placed on *out-of-order* status, which removes them from available inventories. Public areas also require constant repairs, which is also true of *back-of-the-house* areas and equipment. Frequent preventative maintenance and repairs are also required for vehicles, golf courses and other recreation facilities contained within a club. Repair production systems also apply to recreation professionals and technicians who repair personal equipment used by members/guests, such as golf clubs, tennis racquets, sailboats and so on.

The three steps in the repairs production process include diagnostics, intervention and testing. For example, a plumber may inspect a malfunctioning toilet and determine that the ball fitting needs to be replaced. A replacement part should be on-hand and the transformation process will be to install that new part. The plumber will then test the equipment for functionality. Repair production processes are just as intensive as maintenance processes in terms of human, equipment and supply resources. Although there are fewer repair workers than maintenance personnel, trades' people earn higher rates of pay, which inflates the cost of labour for repairs. This is particularly true for golf courses that continually provide repairs to equipment, irrigation systems and course facilities. The outputs consist of operating equipment and facilities, which is necessary for inventory replenishment.

Product production systems apply mostly to foodservice sectors of the services industry. Freestanding and chain restaurants usually come to mind when foodservice operations are mentioned. However, we must also include the F&B divisions of golf and club establishments. The aspect that sets product production systems apart from the other four is the conversion of *raw materials* into finished products. For example, Culinaricians produce finished food items from raw ingredients to be consumed by guests. The distribution points for these finished products may be to dining rooms, member/guest social areas, banquet areas and meeting rooms. Also, bartenders produce finished beverage products from raw ingredients for consumption at bars, lounges, dining rooms and member/guest social areas.

The group recognised that costs of inputs for product production systems are quite high relative to the profit margins of food and beverage revenues. Once the raw materials are available in working storage, the culinary team takes steps to convert those materials into finished plates. This is an expensive transformation process that requires significant levels of human, equipment and supply resources to produce outputs. The sanitation (maintenance production) costs associated with food production are also high. The F&B service staff handles the timely and accurate distribution of products to the members/guests.

The conversion process of a distribution production system consists of movement of physical items or information from one point to another. Again, foodservice sectors provide examples of the distribution of plates to diners. In a restaurant or dining room, service personnel perform the distribution process. Banquet servers and off-site catering servers distribute quantity products for functions. However, distribution production systems are not the exclusive domain of foodservice sectors.

The group appropriately recognised that in a recreational club facility, employees assume several different roles. For example, the staff distributes golf bags, newspapers, messages and other items to-and-from the clubhouse and other areas of the facility. Security officers distribute safety information. Receiving agents distribute purchased items to storerooms. Storeroom personnel distribute requisitioned items to work units. Kitchen stewards distribute china, glass and silver to outlets. Information systems distribute reports to operating and administrative areas. In fact, it was agreed that a full-service club is a network of

distribution production systems in which individuals, items and information travel across the property many times every day. This is another factor contributing to the labour intensity of the properties that were the subject of this field research study.

The generic models associated with the five production systems were developed by the participating managers. They were then converted into detailed production system maps for use in each work unit. It was recognised that in many operating departments all of the production systems were instrumental to providing services. An example of this was identified within food and beverage operations that consist of service, maintenance, repair, delivery and product production. Detailed production system maps that were developed by participants are presented in Figures 2 and 3.

The process begins with the culinary unit production system depicted in Figure 2. The production systems are considered to occur in the back-of-house (BOH) areas. The BOH functions include maintenance (sanitation), delivery (supplies and raw materials), as well as product production processes. The post-preparation (prep) phase begins a new cycle of pre-preparation for the next meal period.

The BOH production systems are blended with front-of-house systems for the complete dining experience. This combination is conceptualised in Figure 3.

The BOH and FOH pre-preparation phases provide inputs for dining facility transactions among club members/guests. The service cycle continues repetitively until the guest departs from the dining area. A blended model depicts resource utilisation combined with production systems that render foodservice outputs, as noted in Figure 4.

The figures represent an example of detailed production maps rendered by the participants in the study. In this case, the foodservice element of club operations is highlighted. Similar models were developed for other operating departments. These included transaction systems for sports professionals, pro-shops, clubhouse departments, fleet maintenance work units and where appropriate, agronomy functions. Although the development of visual maps were appropriate for the collaborative

Figure 2: Culinary work unit production systems.

Figure 3: Foodservice production systems.

Figure 4: Foodservice resource inputs through outputs.

management intervention provided through the study, there are limitations involved with the conduct of field projects from a research perspective.

LIMITATIONS ASSOCIATED WITH PERFORMING FIELD RESEARCH

It has been noted that hospitality management corporations are reluctant to report proprietary information to any party due to the fear of competitors accessing the data to increase their standing in the competitive landscape (von Friedrichs Grängsjö and Gummesson 2006).

Strieffer (2006) reported that many consulting contracts reduce the access to proprietary information, which reduces the academic freedom of the researcher. Another study suggested a lack of manager cooperation with researchers, as the managers are skeptical of sharing information with outsiders (Birch and Pooley, 1995).

From a true research perspective, Caldwell (2005) noted that the use of action research in field studies permits the participants to set the intervention agenda. Generalisations from this technique are not likely to occur because each application is project-based and is difficult to replicate (Peters and Robinson, 1984, as cited in Roberts, 1993). However, action research is suited for specific types of organisational problems to promote practical scenarios and the development of competency among participants (Altrichter *et al*, 2002). In the case of the study reported in this paper, it was determined that a need existed to visually identify specific production systems within a client organisation.

CONCLUSION

The production systems found within hospitality operations are quite the opposite of supply chain firms that move products sequentially through a linear process one step at a time. Simultaneous production and consumption is a non-linear process. This is evident in the interdependency of all of the five noted production systems. The service transaction system is the hub of all the other systems and demonstrates an interdependent relationship with the outputs of its four sub-systems. The situation encountered within the client organisation supported the findings from the literature that indicate a vague understanding on the part of managers concerning production systems and productivity; yet the fact remains that managers are held accountable for productivity enhancement in most cases.

It would be suggested that hospitality managers receive training in the area of production systems for the purpose of learning to conduct diagnostics and implement interventions aimed at productivity enhancement. Visual conceptions would serve as maps for practitioners to apply to specific operational environments. Educators and trainers may choose to incorporate similar visual representations as part of training in the area of hospitality management productivity enhancement. Finally, future field studies might be conducted to investigate factors concerning productivity interventions within hospitality enterprises representing various industry sectors. This practice would be particularly welcome within the sector of golf and club management, which appears to be underreported in the academic literature.

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