Efficiency-oriented training and development based on service process observation and assessment in the workplace

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Abstract

Purpose – This paper aims to establish a service efficiency-oriented framework for training design and evaluation as a pivotal service procedure in the workplace to fill the gap between training and organizational performance in a service context.

Design/methodology/approach – A semi-structured interview was first employed to confirm the primary indicator for training programs and criteria design as the pivotal factor for operational efficiency. An observation experiment was subsequently conducted to reveal that the training program can be redesigned according to the concrete operation effects and influencing factors for operational efficiency in the workplace.

Findings – The proposed service efficiency-oriented training model is suggested to underline and guide the activities for training requirements, training methods, training criteria and training evaluation for the service sector. Training auditing, analyzing and redesigning based on service efficiency could help to integrate service efficiency so that service organizations can readjust their specific training needs and concise the training program in the human resource management practice.

Research limitations/implications – This study only conducted an on-site observational experiment on one of the casinos in Macau. An observational method assessed the conceptual model in the context of table game operations. More quantitative approaches like AI-assisted systems may be employed in the future. The representativeness of the sample is somewhat limited. In addition, the service efficiency-oriented training concept model is an open system that any organization could extend by incorporating more elements in each part that can be developed to meet their human resource management needs. Finally, other service-oriented organizations like airlines and banks can learn from the theoretical model proposed in this article. It is suggested that non-profit organizations would be a better research area.

Practical implications – The finding can provide organizations and practitioners with insights and tools on how to provide and evaluate service efficiency and assess employee performance.

Social implications – The proposed service efficiency-oriented training model provides a theoretical foundation for training and organizational performance for service organizations.

Originality/value – This study is the first to develop a service efficiency-oriented training framework with training needs, methods, criteria and evaluation. A service industry sample was used to verify the framework in the context of casino game pace and dealer training for table games. Suggestions for a combination of management are provided for casino operators to redesign and evaluate the dealer training program for service improvement.

Keywords Service efficiency, Training, Training design, Training evaluation, Casino dealer, Game pace

Paper type Research paper

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1. Introduction

Training and learning can enhance employees' knowledge, skills, and abilities to impact their organizational performance (Halawi and Haydar, 2018; Katou, 2009). Nowadays, managers are generally involved in their human capital development, especially in training performance requirements (Hewett *et al.*, 2018), and service organizations also depend on workplace learning and continuous improvement to remain competitive in the industry (Singh and Singh, 2015). Generally, organizations in the service sector provide intangible services through the interaction between their employees and customers (Poor *et al.*, 2013). Therefore, organizations often employ a training program to ensure employees have the necessary knowledge, skills, capabilities, and motivation to provide high-quality services to their customers (Liao and Chuang, 2004; Nielsen *et al.*, 2017). Hence, theoretically, it is particularly critical for service organizations to finetune their systematic training programs to improve and enhance employees' knowledge, skills, methods, attitudes, and values on the job, thereby achieving maximum performance, continued growth, and both individual and organizational development (Alzaydi *et al.*, 2018). However, current literature used various indicators about training and organizational performance like financial (ROI, sales, productivity, profit, market share) or non-financial (turnover, absenteeism, job satisfaction, motivation) is still debatable alongside many factors within or outside organizations (Nguyen *et al.*, 2010). And it also neglects the fact that operational efficiency is the crucial target of training for overall organizational performance (Tharenou *et al.*, 2007). Thus, similar training programs lack a valid theory basis for service performance evaluations on employee training in service sectors. A research gap needs to be filled on how training programs can be designed and evaluated to improve organizational performance for service sections.

In practice, the fact is that most governments and businesses dilute training programs in a chaotic situation and lack clear objectives when focusing on an infrequent training expenditure (Mosley *et al.*, 2019). Several training programs are often underprivileged and only offered as a special package for part of employees. Some programs are also reserved for top managers only to keep up with the latest training trend (Padek *et al.*, 2018). Although resources are generally budgeted for talent training and development, organizations usually choose the number of participants as a successful training criterion and rarely measure the training effectiveness (Hamel, 2012). The design and operation of training programs are substantial deficiencies that need to be improved; thus, organizations are like to remain in a disadvantaged position to enhance their competitiveness. A performance-based approach acknowledges the pivotal role in promoting training since many training programs have been criticized for their fashion-chasing and luxury nature (Kraiger *et al.*, 2004). Moreover, more skepticism is also growing about training and performance regarding the theoretical and practical basis (Nguyen *et al.*, 2010). Even HR managers often have trouble proving the assumption that training is efficiently based on training demand analysis yet, they lack a simple and effective way to demonstrate the training benefits provided by their departments (Jehanzeb and Bashir, 2013). In addition, Edwards *et al.* (2003) stated that it is difficult to measure training effectiveness in cases where the existing assessment criteria remain extra subjective assumptions based on specific links with training requirements. However, the two most relevant indicators of successful training in learning outcomes and training performance are reported by Arthur *et al.* (2003). Only limited evidence supports the argument that improving training can lead to successful training in service organizations (Schultesrr *et al.*, 2020). There could be several reasons for this, including the need for a period of validation for financial performance, the ability to measure service performance in contrast to training performance, or the post-training environment may not generate an appropriate opportunity to demonstrate learning, skills, or abilities of employees (Hughes *et al.*, 2018). Therefore, only limited research has focused on operational evaluation for the

effectiveness of training, especially on service-oriented training. Thus, there is a research gap regarding an efficiency-oriented training assessment and how it impacts service organizations.

Furthermore, the training strategic goals of service organizations, including long-term, annual, departmental, and individual goals, are out of touch with the current human resource practices. This shows that human resource management lags in training theory and cannot meet the organization's original intention to improve organizational performance. If work is strategically aligned with the organization's needs, work performance improvements should be reflected in organizational outcomes or outcome criteria like productivity, quality, and service. There is skepticism about the link between training and outcome criteria (Alliger *et al.*, 1997; Wright and Geroy, 2001). Training is mainly aimed at the individual level, so there is little connection between organizational performance and individual performance, according to Kozlowski *et al.* (2000). There is no literature on individuals' performance to measure organizational performance, especially in the service sector. Different from other industries, service-oriented organizations have a more complex working environment and various factors that affect results. While training effects are best seen in individual learning and behavior, scholars have called for evaluating training effects not only on individual and team outcomes but also on organizational outcomes (Haccoun and Saks, 1998; Ramlall, 2003). Tharenou *et al.* (2007) noted that most training models end with transferring individual-level results to the training environment, and there has been no theoretical development or research on how individual-level training results lead to organization-level results. Training should impart relevant knowledge and skills needed by both employees and the organizations, and they should be designed and delivered effectively (Salas *et al.*, 1999). There is a strong belief that training is associated with organizational-level outcomes (Alliger *et al.*, 1997; Kozlowski *et al.*, 2000). The service profit chain theory holds that the performance of an organization stems from the organization's training of employees (Garg *et al.*, 2012); however, little research has been able to explore and explain what kind of training is effective for organizational efficiency. Therefore, this article provides a research roadmap for building a link between employee training and organizational performance for service organizations.

The Macau gaming industry once provided nearly 90% of the territory's tax revenue (McCartney, 2015). The local casinos are inundated with Baccarat games. Most gaming revenues are generated from the Baccarat games operated by table game dealers in casinos (Kilby *et al.*, 2005). The table game dealers are in charge of this particular service, and training and evaluation are vital factors for the operational effectiveness of casinos (Tate, 2001). In this regard, dealer training plays a key role not only in the career development of the concerned employees but also in the overall development of the casino, which ultimately can increase profitability and achieve business objectives (Gu and Siu, 2019). Considering operational efficiency, most casinos emphasize face-to-face guest interactions and on-time responses in table game service (Back and Lee, 2015). Accordingly, the training programs provided for casino dealers are diversified and well-designed to a large extent to meet dealers' personalized training needs (Zhou, 2020). Therefore, casino operators face the same issue regarding how personal training is linked with the performance and efficiency of the organization. The training program will therefore continue to enhance employees' skills geared toward the organization's training objectives, particularly in improving service profits and increasing service competitiveness. Hence, it needs an evaluation criterion to determine whether service efficiency can be validly measured under the current training design, training employment, and training evaluation for casinos.

The present study intends to achieve several research objectives in light of the concerns discussed above. First, through literature analysis, from the perspective of the relationship between training and organizational performance, this paper attempts to establish an efficiency-oriented training theoretical paradigm and provide a basic theoretical framework

for training design and evaluation. Second, this paper chooses the Macau gaming industry as the research object to explore the actual relationship between training and organizational efficiency. The theoretical model proposed in this paper is verified through literature analysis, interviews, and related observation experiments accordingly. Thirdly, impact factors will be explored in training effectiveness and evaluated in the design and assessment of service procedures and game pace in casino operation efficiency based on the observation experiment. Finally, some suggestions for efficiency-oriented training design and evaluation for casino operations are also proposed in this study.

2. Literature and theory

2.1 Service efficiency and training

Service organizations usually enforce strategic staff training to motivate individuals to positive action, leverage their knowledge, skills, and attitudes, and increase productivity and performance (Pasban and Nojedeh, 2016). Profit, in the service profit chain, is raised by loyal and satisfied customers who perceive service value that stems from the contribution of dedicated and contented employees who enjoy a high quality of life at work, which can be measured via employees' perception of their work, colleagues, and the company and be improved through organizational training, thereby bringing progress in service (Garg *et al.*, 2012). Moreover, the quality of service depends upon a wide range of fundamental support and assistance like internal services that encourage employee participation, remove barriers to work, and enable employees to receive support (Hare *et al.*, 2012). Therefore, organizations usually require a different staff training strategy to develop their capabilities in improving workplace effectiveness (Chakraborty and Biswas, 2020). Staff training can positively impact service quality and efficiency (Kloutsiniotis and Mihail, 2018). It has been proven that a valid training program can reduce the cost of ineffective and expensive training (Scott, 2020). As a result, employee training has gained strategic value for all service organizations because high-level service quality determines customer service effectiveness.

Furthermore, service efficiency depends on a well-designed service system that upholds the promised service quality to customers (Varsanis *et al.*, 2019). Such service quality primarily relies on the performance ability of employees after sufficient organizational training (Tsaur and Lin, 2004). Successful training essentially hinges on a well-designed and effective training program (Chen and Naquin, 2006). Additionally, formal and systematic training can improve employee performance for their organization by improving employee behavior (Knight and Parker, 2021). Hence, a theoretical framework for service efficiency-oriented training was developed (see Figure 1), including a concept structure below, training requirements, training criteria, training methods, and training evaluation.

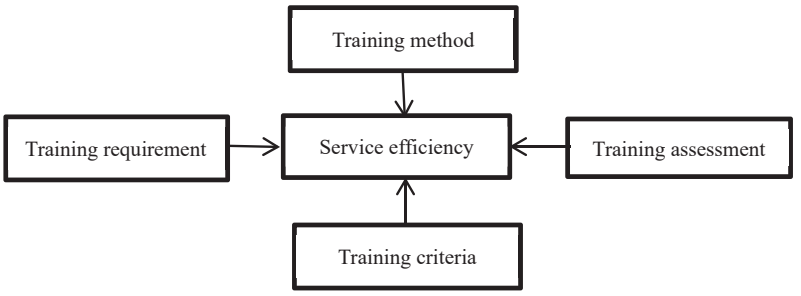

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Figure 1.
The service organization's efficiency-oriented training framework

Service organizations generally consider efficiency-oriented training for requirements. When designing training, service organizations usually intend on well-planned human resource training and development to improve the basic skills of those new or existing employees performing their jobs, which are crucial to the productivity and performance of service organizations (Dessler, 2009). A rigorous assessment of training requirements can specify why and where training is needed. Meanwhile, a careful training review must fit the requirements of employees' development, depending on the basic training program (Murk *et al.*, 2000). A well-designed training program should match certain necessary skills for employees. Since customers may unexpectedly shift to different quality expectations, the ability of customer service staff requires an ongoing review of how to fine-match their requirements (Mohotti *et al.*, 2013). In addition, professional training enables employees to apply the knowledge and skills they have acquired (Diamantidis and Chatzoglou, 2019) and to solve the problem of whether the knowledge learned is appropriate for their industry and organization (Basten and Haamann, 2018) so that organizational training contributes to improving organizational efficiency.

Furthermore, service organizations usually develop a training method that emphasizes efficiency. Training method is considered an instrumental component of diverse human resources development, which is driven to retain and develop employees and improve organizational performance. As a result, various types of training are provided to employees, such as on-the-job training, vocational training, and general and specific training (Diamantidis and Chatzoglou, 2019). The most desirable outcome of training is based on the efficiency improvement of service (Nguyen *et al.*, 2021; Sahinidis and Bouris, 2008). In practice, casinos are a labor-intensive and quality-oriented service sector whose competitiveness and productivity depend mainly on the skill and professionalism level obtained from training for front-line employees (Subhash, 2012).

Moreover, service organizations are concerned with an efficiency-oriented training criterion. Training usually requires employers to provide specialized services with two skills, such as hard and soft skills (Wibowo *et al.*, 2020). In the workplace, technical skills are necessary to perform specialized tasks in a given occupation, where effective communication is a crucial component of the service process (Carnevale and Smith, 2013). A specific set of skills, such as the table game service provided by casinos, is often needed for diverse training activities in education and training, work, and personal life (Riley *et al.*, 2018). Researchers generally define a specific skill as the benchmark for certain tasks to be performed and problems to be solved purposefully and systematically based on various aspects, including the evaluation of individual knowledge and skills (McGonagle *et al.*, 2015), professional method, and the techniques acquired in the workplace (Kim *et al.*, 2011). Therefore, auditing the acquired skills at work involves the input and outcome of employee training to an efficiency-oriented training criterion.

Finally, training evaluation is essential for efficiency-oriented organizations. Service organizations typically evaluate the effectiveness of a training program after it is implemented to verify that the training budget is wisely allocated (Halawi and Haydar, 2018). A meaningful assessment can specify the outcome of the training program to match the original targets with performance improvement and behavioral change for employees (Mohanty *et al.*, 2019). Unlike hard-skill training, service training assessments focus on more tangible, easily measurable results, so many researchers and trainers argue that service training assessments are indeed rigid and challenging in practice (McLean and Moss, 2003). Therefore, a robust and widely used four-level evaluation model was developed (Rajeev *et al.*, 2009; Smidt *et al.*, 2009). This model provides four training evaluation measures reaction, learning, behavior, and results from Kirkpatrick's four-level model of training criteria. The concerned training criteria measure the trainee's preference or satisfaction with the training program. Learning is the principle, fact, and technique that participants can understand and

absorb, and the behavior evaluates changes in work-related behavior or performance. The results are the improvement of personal or organizational, such as productivity gains, monetary, efficiency, morale, and teamwork (Potnuru and Sahoo, 2016). Additionally, the operative evaluation methods that consider available and training capabilities are required for today's organizational performance (Garcia-Sánchez *et al.*, 2018). Organizations struggle to focus on the importance of training assessments and how to benefit from their training, and service organizations must develop efficiency-oriented training evaluations.

2.2 Casino service efficiency and training

Game speed frequently defines as a base efficiency requirement for various casino games (Hashimoto and Fenich, 2007; Newall *et al.*, 2022). By improving the game speed, casinos could administer and run table game operations more efficiently, leading to higher profitability. The profit of a casino is influenced by several factors, such as the theoretical win is related to the average bet, house advantage, and the number of coups (Jacobson, 2015), where the average budget is the total amount of guests/the number of games bet, the house advantage is the advantage to winning when casino plays each game. The coup means the number of rounds played. Moreover, Varsanyi (2012) reported on how the dealer training program affects casino revenue, in which game speed is one of the crucial variables affecting the profits of the table game operations. Furthermore, many professionals and academics consider that game pace is the key factor affecting the Baccarat game revenue. Liu *et al.* (2021) stated that game speed could enhance operational revenue, in which more coups complement each other and more returns are produced (Kilby *et al.*, 2005). Therefore, casino operations could be further improved using more safe and simple procedures to achieve maximum profit.

Furthermore, Irwin and Edwards (2019) considered that raising casino revenue requires diverse management, such as game procedure, auditing game pace, and training programs. Speeding up the game means increasing the coups per hour and thus affecting the overall number of bets (Varsanyi, 2012). In addition, reducing unnecessary game procedures may increase the time for gambling activities. In such cases, card shuffling procedures can be re-evaluated and shortened to make them unnecessarily multifaceted, and safe. Meanwhile, regular audits of the game pace integrated with a better training program will significantly improve the dealer's ability to administer the casino games. A cutting-card, multi-shuffler can reduce the number of cards from the back of the stack to reduce the frequency of the change of cards at a time (Hashimoto and Fenich, 2007).

In addition, the game pace depends on several factors, including the number of players, the number of coups, and the skill level of dealers (Kilby *et al.*, 2005). Customer service skills are also one of the factors that can increase profits because guests can perceive the genuine value of high-quality service that can increase their chances of returning. Therefore, abundant literature has proved that dealers are the essential factor affecting the game pace (Kilby *et al.*, 2005). Modern casinos also provide guests with a gaming experience as part of their general hospitality service. To ensure a satisfying customer experience, casinos rely heavily on the quality of dealer service to deliver stable and high-quality customer service.

In practice, initial training is critical for table game dealers when they start working in a casino environment. For the purpose of delivering real-time standardized services to customers, they are provided with the basic skills. Dealers are the front-line employees in table game operations, and they received most of the training before being officially employed by casinos. Training in casinos can improve job satisfaction, in turn, the job performance of dealers, as well as their professional ethics, mission awareness, and the responsibility to provide high-quality services (Gu and Chi Sen Siu, 2009). Meanwhile, dealer training is often adjusted according to the changing of the gaming facilities to equip dealers

with more and higher skills to enhance the service efficiency and the company's competitiveness in the gaming industry, which has high personnel mobility and continuously requires effective training to retain dealers to achieve the expected business objectives (Irwin and Edwards, 2019). Organization training can enhance dealers' knowledge and motivation to do their jobs effectively, thereby reducing psychological stress caused by heavy workloads, particularly if the casino maintains a low turnover rate (Wong and Lam, 2013).

In addition, training and development are contingent programs according to the actual situation of the casino and the dealers. Providing high-quality customer service is the hallmark of casino operations (Zhou, 2020). As competition increases among casino operators, service quality is often seen as the dominant reason for their competitive advantage (Islam *et al.*, 2019). Dealers should abide by game procedures and service strategies when performing daily tasks (Chen McCain *et al.*, 2019). These criteria are designed to help game management in the most practical way possible.

A regular evaluation should provide a set service criterion for the operational department, such as greeting guests, smiling, introducing and learning the customer's name, listening to requests and complaints, acting and responding positively, and asking and understanding customers who need and care, wishing them good luck and saying goodbye when they leave (Browne, 2004). Casino players require more advanced communication skills since gaming is considered an intangible service, so the quality of customer experience depends on a high level of satisfied interaction (Schwartz, 2016). For this reason, well-trained dealers are the key factor affecting the service procedures intended to speed up the game. Likewise, well-designed training standards and service audits can assist in identifying the slowest dealers in terms of game pace and finding which programs will slow them down, as well as guiding them on how to enhance their game speed. Dealer training can accelerate the game pace, resulting in a fast game speed and increasing the number of coups per hour. As a bonus, dealers who encourage their customers with positive service can increase their tips from more games. Furthermore, the game pace should be audited so that table game management can establish a clear benchmark for adjusting game speed according to each situation. This will enable the management to identify different factors from different games and evaluate the profits of various casino games. In addition, game procedure optimization can reduce the time needed and improve casino operational efficiency.

3. Methods

This study investigated whether dealer training affects game pace in casinos. The method used in this study included an in-depth interview with an industry practitioner and an on-site observation experiment in Macau casinos. To protect the privacy of customers, photography and video recording are prohibited in Macau casinos, and the casino surveillance system can only be used for internal and regulatory purposes. Consequently, we employed the on-site observation method to better observe dealers' service procedures. Sample data were collected from the Baccarat table game using an observational method in Macau casinos. Before the on-site observation, a semi-structured interview was designed to understand the status of dealer service and dealer training in the Macau gaming industry.

Based on the above-mentioned relevant literature on casino operations, the research team first invited the training director of MGM Macau for an in-depth interview through convenience sampling. This semi-structured interview involved three questions: "What is the main job responsibility of a dealer in casino operations?", "What factors affect a dealer's service speed?", and "What kind of training is offered to dealers?" The findings of the interview indicate that dealers primarily preside over the table game, shuffling cards, settlement, and filling or credit is the main factor affecting the game speed, quality of service,

customer satisfaction, and the relevant profits of the casino. In some casinos, observation is used to measure the card shuffling service. As a result, the main factors affecting the game speed include three aspects: The dealer's unskillful control of the game comprises the payout, tableau, the card deal, change of card set, and chip tray. Casino's unsatisfactory operations resulting in reducing the game pace include the pit manager having no authorized priority to continue gaming, losing control of a group of guests, no guests at the table, and error processing speed. As for the customer factors, they include overcrowded tables, delay of the game due to a variety of small value chips being changed, betting pairs, and guests, unlike color change when chips are in short supply.

Moreover, the interview outlines several factors in the speed of the dealer's service procedures. The number of coups per hour is generally used to measure the game speed. Currently, the measurement methods and guidelines are different among the casinos in Macau. Although different departments (e.g. table games, slot, and marketing) in the same casino use various measurement methods and calculation criteria, they all use 1 h as the measuring unit. For example, the game table team gathers data on coups per hour and calculates the average operational data. Meanwhile, the surveillance team collects the average number of coups with guests in one day. In addition, other data like dealers' stop and wait times, which affect the game pace, are also collected. When the pit game pace concept is used to measure the efficiency of the dealers' service, the measurement only counts the table with guests, ignoring the table without guests. Macau casinos are currently completing new dealers' training based on the apprenticeship system but lack observational data for service evaluation and training audits.

Second, the research team designed measurement tables in the form of observational data collection to analyze the internal and external factors impacting the game speed of the casino based on the conclusions of the above interviews and relevant theories and knowledge of casino operations. The data for the Baccarat game consists of gender, age, number of coups, the average number of visitors, interval time per game, number of coups, and intermission time per game (see Table 1). The gender and age of the dealers are used to analyze whether the gender and age of dealers affect game speed. The number of coups is calculated, including the number of coups of Banker, Player, and Tie within one hour for each table. The average number of guests is the sum of seats or unseated guests per hour. The change of card set is used to calculate the change time of the card set in minutes. The number of deals is the sum of chips purchased and color changes within one hour in a table game. The intermission time per game refers to the recording of the period during which the guests are not betting, and this is to analyze how many games the guests play and how many games the guests will not bet on.

In addition, a dealer's service procedures mainly consist of 10 items in the table game operations (see Table 2). The table shows the time in seconds from the first card, flipping the Banker/Player marker to the shoe. The split of the bet is the time from the payout to three par-

Item	Table								AVG
Table limit (HK)	2 K	2 K	2 K	3 K	3 K	5 K	5 K	3 K	
Gender	F	F	F	M	M	M	F	F	
Average gambler	4	4	4	4	4	4	4	4	2.31
Average bet (KHK)	20	20	15	30	35	20	40	15	21.82
Interval time per game (Secs)	26	38	26	23	30	24	25	30	23.93
Intermission time per game (Mins)	0	0	0	8	0	9	41	10	16.16
Total games per hour	45	36	41	56	33	49	14	35	39.78
Free Game	3	0	7	13	5	10	1	8	8.16

Table 1.
Table operations

Source(s): Authors' own creation

Service process	N	Range	Min	Max	Mean	SE	SD	VAR
Change of card set	78	47	85	132	100.9	1.023	9.035	81.626
Color change for a 10 K Chip	78	11	8	19	13.3	0.347	3.067	9.404
Card dealing	78	8	3	11	3.57	0.153	1.353	1.829
Split the bet	78	2	1	3	1.39	0.064	0.562	0.316
Wait, director	78	14	1	15	7.39	0.363	3.204	10.264
Color change for a 100 Chip till the Pair wage	78	12	8	20	11.12	0.277	2.444	5.973
Spread of banknote	78	14	9	23	14.22	0.327	2.89	8.354
Handover	78	10	2	12	6.47	0.244	2.154	4.639

Source(s): Authors' own creation

Table 2.
General table operation

value chips that do not need to be spread. The chips from losing bets are the time from the coups of losing bets when the chip traps. The waiting time is seconds from the call to the supervisor to the responsible supervisor. The change for an HKD 10 K-denominated casino chip is the time from guests' 10 K chips to charging ten thousand chips. The color change for a hundred is the time in seconds from the guests putting a hundred ships until the pair wager has been placed. The duration of exchange with a second set of cards is the time from the opening front cover of the card shoe to the burning of the card.

Moreover, the Multi-Player Table mainly presents the data collected on the table with 15 or more guests (see Table 3), which records the number of guests, bets, guest scoring records, deals, and whether it has a missing code, to identify the external factors influencing the game pace. The tables without patrons or wagers are used to determine whether or not the dealer will pay attention to follow-up, invite guests to the table, and display the electronic roadmap (see Table 4) to measure the casino's attention to the tables without patrons. We pre-tested in a mock casino at the Centre for Gaming and Tourism Studies (CJT) of the Macao Polytechnic University before the formal test in the live casino environment. Based on the previous interview, we initially evaluated the service processes of 10 dealers and collected the data at CJT to demonstrate dealers' game speed efficiency. The pre-test data proved that the number of chips from losing bets had nothing to do with the dealers' ability. The tableau card relates to the time of the guest's cards and is also unrelated to the dealer's skills. After deleting these two items, a total of 8 items are finally retained in Table 2.

Finally, the formal test was conducted by random sampling. The measurement was taken at a casino [1] in Macau from 2 to 15 March 2019. We selected one corner of the casino for the continued observation where the server dealers could not be aware that they were being observed during their shift time. The dealers under observation were randomly assigned by their casino managers one hour a shift. The measurement team consists of 4 members in two

Item	N	Range	Min	Max	Mean	SE	SD	VAR
Time	62	63	12	75	32.61	1.620	12.754	162.665
Game	66	19	1	20	9.43	0.588	4.775	22.798
Gamblers	62	10	15	25	17.31	0.330	2.596	6.739
Betting gamblers	62	10	6	16	10.23	0.334	2.626	6.898
Guest mark	62	15	11	26	15.75	0.446	3.514	12.349
Delay for lack of chips	62	5	0	5	1.05	0.173	1.360	1.850
Guest transaction	62	52	3	55	20.08	1.546	12.173	148.174

Source(s): Authors' own creation

Table 3.
Multi-guest table

Item	N	Range	Min	Max	Mean	SE	SD	VAR
Games	76	58	3	61	23.26	1.890	16.479	271.556
Passing Guests	81	66	1	67	13.13	1.364	12.279	150.782
Waving guest times	79	67	0	67	10.73	1.232	10.952	119.942
Inviting guest times	77	40	0	40	7.42	0.856	7.510	56.402
Duration of game	81	60	0	60	13.83	1.731	15.583	242.820
Guest require shuffling	7	55	1	56	11.29	7.624	20.172	406.905
Manager requires shuffling	13	0	1	1	1.00	0.000	0.000	0.000
New guest	56	0	1	1	1.00	0.000	0.000	0.000
No guest	4	0	1	1	1.00	0.000	0.000	0.000

Source(s): Authors' own creation

Table 4.
Table without patrons or wagering

observing groups. The data were recorded with paper, a pen, a watch, and a telephone. And each test lasts 2–3 h, accumulating 60 h.

4. Results

The results interview confirmed that the key factors affecting the game speed include three aspects and outline detailed factors on the speed of dealers' service procedures. Macau casinos complete new dealers' training based on the apprenticeship system, which lacks observational data for service evaluation and training audits.

The results of the measurement observation are listed as follows Table 1 to Table 4. The collected samples are primarily 70, except for one case exceeding 100, while the measurement times are mostly afternoon and early morning. The average number of guests per table at the casino is 2.31, the average hourly absence time for each table is 16.16 min, the average hourly operating total is 39.78 coups, and the average coup time is 1.10 min. And the interval between each game is 23.93 s, an average of 8.16 games per hour without betting (see Table 1).

The dealer service test is presented in Table 2, where the dealer's services were significantly different. Though the service process was the same, there was a vast time difference in the task performed by dealers. A standard deviation of the split revealed that the bet was the smallest, and the change of card set was the most time-consuming. This was allowed by the color change for a 10 K chip. The waiting time for the supervisor was longer, which was also a significant concern for casino management.

The Multi-Player Table (?) recorded the data for 15 or more players (see Table 3), in which it had 59% of players betting and 91% of them putting in loyalty points with an average of 0.62 deals per minute and 3.28 min per game. When there were more than 15 players, the average game time was 3 min; the average number of players was 17 people. Nevertheless, the betting ratio was less than 60%, which reflects the similar behavior of gamblers extracting awarded loyalty points in casinos; 0.6 transactions per minute is also a critical factor in slowing down the games.

The gaming table without patrons or wagering is presented as Table 4. The average time without patrons or wagering was 14.54 min, of which 24% were more than 20 min, and more than 4% were more than 60 min 83% of dealers were at the table waving to passing guests, and 56% served guests amicably in compliance with company guidelines.

The gaming tables without patrons or wagering account for a quarter of the total tables under investigation, resulting in low operational efficiency. Meanwhile, as the number of players increases, the game time per game increases. When there was only one player, the average time was 55 s. Increasing each player would bring an average of another 10 s (see Table 4). Assuming there were 8 gambling tables in a gaming pit if the one-four table is the

table without patrons or wagering, there are only six tables in operation. And if there is a fixed number of 24 guests, there are an average of 4 guests per table. After one hour of operation, six tables operated a total of 6 x 60 x 60 / (55 x 3 x 10), i.e. 254.12 coups. Players might also be better distributed among all the tables, i.e., 8 tables with 3 people each. After 1 h of operation, a total of 384 coups can be conducted at 8 x 60 x 60/ (55 x 2 x 10). With integrated management, the concerned casino can significantly increase the game pace, thus increasing efficiency and profitability.

5. Discussions and implications

5.1 Discussions

The study developed an efficiency-oriented training framework by analyzing the service-profit chain effect in service organizations and empirically testing regarding casino service training context. It is found that, in human resource management, service organizations could fulfill training requirements straightforwardly by providing managers with more brief training. In the workplace, efficiency-oriented training audits could provide integrated service efficiency by analyzing and redesigning the service process. Training design and evaluation can specify the key factors causing customer service delays and low service efficiency in complex service processes that deeply overlap with employees, management, and customers in the existing workplace. In this study, several research findings were summarized as follows.

First, the results of this study reveal that the service efficiency-oriented training model has proven effective in casino operations. A significant contribution of this study is that it breaks down the conceptual barriers to how a relationship between individual training and organizational performance can be effectively created (Tharenou *et al.*, 2007). Furthermore, the theoretical issue here is addressed by transforming organizational performance into service efficiency and establishing a connection with individual training. Although the auditing methods of service efficiency of different service organizations might vary, the training design and evaluation are diverse. This theoretical breakthrough suggests that service organizations can establish their human resource management strategies based on the theoretical framework for service efficiency-oriented training.

Second, the results found that efficiency-oriented training evaluation emphasizes the importance of service organizations' re-auditing in service processes (Wrigley and Straker, 2016). Due to the differences in real-time customer engagement processes, customers might want to be more involved if they have a deeper understanding of the service process at work and would have a better understanding of how they influence service outcomes (Jana, 2009; Sklyar *et al.*, 2019). In this case, it is adopted methods that measure employee efficiency may be adopted to assess service efficiency, as an increase in customer participation can make service operations more challenging to manage (Alzaydi *et al.*, 2018). Therefore, it is necessary to redesign a service process that is employee-driven and enables service efficiency audits. In this way, it could better meet the customer's needs and minimize service differentiation due to customer engagement in the service procedure.

Third, the results establish that service efficiency is a comprehensive indicator influenced by the integrity needs for better customer service and the low operational costs of both internal and outside organizations. The employee's service is the most direct internal factor that affects service efficiency, and customer participation is an external factor during the service procedure (Ho *et al.*, 2020). A major concern of the organization is determining how the management combination can be implemented (Basten and Haamann, 2018). Hence, it needs to regularly evaluate and analyze external factors at the workplace and eventually integrate them into the management of the service processes.

Fourth, when reengineering the service process targeted at service efficiency improvement, the service evaluation criteria might be compromised to meet customer preferences in some specific services. Thus, service organizations might sacrifice some flexibility while over-emphasizing standardized operations (Mujtaba and Senathip, 2020; Zeng *et al.*, 2012). However, test analysis can identify bottlenecks and critical paths in service operations and develop a criterion to evaluate the most pivotal activities on a critical path at work (Ba'Its *et al.*, 2020). This means that these service criteria can be used by referring to the time or quality requirements for different service activities.

Finally, the results show that the evaluation of service efficiency and employee performance assessment is strictly distinguished, and the evaluation criteria of service efficiency are sometimes unavailable for employee performance appraisal (Greiling, 2006). When the managers and customers involved in the service process affect the service efficiency, a service efficiency-oriented performance evaluation requires a lot of human and economic resources. In addition, the training evaluation can be conducted on a regular cycle, such as semi-annually, to assess the efficiency of the organization's services and to test the actual operational effectiveness of the service process (Islami *et al.*, 2018). A casino service efficiency assessment can therefore select an appropriate criterion based on the service data of individual or departmental users regarding the casino service process of the game pace. Such benchmark testing requires a judgment on whether the process itself is efficient. As a result of the uneven abilities of the dealers, the training procedures should be carefully designed in a standardized model to reduce the skill gap among the dealers in the workplace.

5.2 Implications

In theory, the proposed service efficiency-oriented training conceptual model provides a theoretical foundation for considering training and organizational performance for service organizations. The results of this study provide valid evidence of the casino operation efficiency on dealers' training program observation test. It can be boldly assumed that this conceptual model can be widely applied to various service companies like airlines and banks service, to establish a link between training and organizational performance, providing an effective human resource strategy for those organizations.

In practice, casinos should pay more attention to dealer skills training and adopt other management tools and elements to increase service efficiency. To improve individual skills, recruits are advised to work with experienced dealers who can observe their weaknesses and correct their skills and rhythm in the process of the game service (Prentice, 2018). The service tips for dealers are also considered an incentive to improve service efficiency. In addition, gaming tables without patrons or wagering are also a noticeable factor affecting the game pace, which means poor operation management has affected the game pace in the workplace. Hence, a suitable table combination of management can reduce unnecessary tables without patrons or wagering to supplement the loss of game pace.

Moreover, customer behavior in collecting casino loyalty points affects the game pace and game speed, thus reducing the service efficiency of a company (Baker and Legendre, 2021). As a result, loyalty points are earned based on the time guests spend, which incentivizes customers to collect loyalty points during service intervals. Therefore, guests receive more bonus points when the game moves slowly. This increases the game delay in exchange for the loyalty points, such as using a large number of chips in exchange for points. Casino operators should redesign their rewards program to deal with customers' behavior in collecting loyalty points.

6. Limitations

This study holds several limitations and recommendations for subsequent research. First, despite the extensive literature we only conducted observational experiments on one of the 40

casinos in Macau at the time. The representativeness of the sample is somewhat limited. Second, the service efficiency-oriented training concept model is an open system that any organization can extend by adding more items in each part that can be developed on human resource management needs. Third, we use an observational method to assess the conceptual model in the context of workplace table gaming. In the future, more quantitative approaches like AI-assisted systems might be employed. Fourth, in addition to more service-oriented organizations such as airlines and banks can learn from the theoretical model proposed in this article. It is also suggested that non-profit organizations would be a better research area.

Note

1. Considering that the research findings of this study may affect the external perceptions of the concerned casino, the researchers have omitted the information of the casino under investigation.

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