THE IMPACT OF EMPLOYEE EMPOWERMENT ON CONTINUOUS IMPROVEMENT OF HEALTH CARE: AN EMPIRICAL AND COMPARATIVE STUDY BETWEEN HOSPITALS

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Abstract. The study has been aimed to know the impact of Employee Empowerment on *CI* of health care between hospitals (government and private). The required data for the purpose of this study were collected by a questionnaire designed on the basis of related practices. It consisted of 73 items divided into two domains, the first one to measure employee empowerment practices (37 items), and the second one to measure *CI* practices (36 items). The study sample was applied to the (326) respondents; The total number of respondents from hospitals was 326; That is, 76% of the total number of the target group, which is (431) respondents, with a response rate of 96%, which is high percent because the researcher distributed the questionnaires personally. Using IBM SPSS and a comparative descriptive-analytical approach. Three themes emerged from the respondents' trends. *First,* the existence of employee empowerment application in government hospitals was moderately level, and in private hospitals was in a high level, and also the existence of *CI* application in government hospitals was in a low level, and in private hospitals was in a high level. *Second,* there is a strong correlation between employee empowerment and *CI* of health care in hospitals (government, private). *Third,* there is statistically significant impact at the level ($\alpha \leq 0.05$) of the Employee empowerment on *CI* of health care whether the dimensions of *CI* are combined or fragmented in hospitals. The limitation of this study was in fixed bureaucracy structure in governmental hospitals and competitiveness issues in private hospitals. The study dealt with a dependent variable that was rarely studied by previous Arab studies and also rarely comparative study between profit and nonprofit hospitals.

Keywords: employee empowerment, continuous improvement (*CI*), health care, government and private hospitals.

JEL Classification: M10, M12, L33.

Introduction

Organizations face many challenges in improving their performance and productivity and becoming more agile in the current changing and competitive business world (Ukil, 2016). Health care and patient safety are a unique services, especially with widely diverse patient needs and expectations, and society demands to improve the quality of hospital services and reduce their costs (Metcalf et al., 2018). The hospitals sector in Jordan has become more interested and interacts with these challenges, especially related to human resources of different types and levels (managers, specialist doctors, nurses, professionals, etc.), therefore, it strives to empower its employees to respond to these challenges through the implementation

of ***continuous improvement (CI)*** (Hirzel et al., 2017). Although the process of implementing *CI* includes also faces challenges such as administrative and change challenges, as well as setting appropriate goals and performance measures (Lameijer et al., 2021).

In order to define the concept of *CI*, Butler et al. (2018) indicated that it is the approach that created and modified operating procedures in order to improve Effectiveness Through the use of learned and stable manner for collective activity. According to MacLean it is a structured approach that includes an ongoing organizational effort to improve processes, output, and enable managers and employees to solve problems that face in practice (MacLean, 2021). Studies and management practices in many health institutions and hospitals have shown the supportive

professional practice environments are of particular importance to employee satisfaction with their work, quality of services provided, and patient safety in hospitals (Laschinger, 2008), so the studying and investing in the human element as the competitive advantage of any organization that seeks to achieve *CI* to survive in its business market (Daft, 2010). However, Poor hospital arrangements; like lack of authority for decision making, limited access of information, lack of control on the job, vague responsibility, Unfair incentive system often make the jobs difficult for the employees, Which are the enablers of empowerment and they reduce the implementation of *CI* (Hirzel et al., 2017). To enhance the *CI*, the hospitals need to give employees enough authority and support (Hirzel et al., 2017). Empowerment is a philosophy that believes in enriching people's jobs and giving the power to exercise control over and take responsibility for outcomes of efforts (Sahoo & Das, 2011). The health care organizations are more concerned about knowledge workers because they are the real drivers of services (Ross et al., 2008).

Importantly, numerous studies have been conducted on *CI* in different areas such as Continuous Improvement as an Ideal in Health Care (Berwick, 2019), Quality Improvement in Indigenous Primary Health Care (Bailie et al., 2013), Critical thinking and *CI* (Pérez Rave et al., 2020), Leadership for *CI* in healthcare (Graham & Woodhead, 2020), Barriers and Enablers that exist when implementing *CI* within Pharmaceutical Industry (McDermott et al., 2022), A framework how organization can assess sustaining *CI* in healthcare (Barberato Henrique et al., 2020), A method for transforming the nursing practice by integrating a continuous improvement simulation expansion strategy (Aul et al., 2021), Increase level of employees empowerment in implementing the *CI* process (Hirzel et al., 2017) and the impact establishing Culture of *CI* on Ambulance Service (Rodgers & Jiju, 2021).

Despite these works, few studies have been conducted on the impact of employee empowerment and *CI* of health care. Hirzel et al. (2017) suggested that *CI* can be developed by employee empowerment. Gatchalian (1997) pointed out that the employee empowerment is the key of TQM and *CI* success. Following this trend, the present study aims at exploring the impact of employee empowerment on the process of continuous improvement of health care.

1. Literature review and hypotheses development

1.1. Definition of *CI*

CI as a philosophy is based on constant tendency for the better, continuously and permanently, shifting the entire curve of production upward even slightly (Berwick, 2019), *CI* is a work through which it aims to consolidate a culture aimed at eliminating waste in all systems and processes of the organization and involves everyone who wishes to improve without making a huge capital investment (Bhuiyan & Baghel, 2005), also seen as a culture of innovation that focuses on critical processes, engaging employees with integrated improvement activities in the organization (Kaye & Anderson, 1999). In other simplest form CI can be defined as "a company-wide process of focused and continuous incremental innovation" (Bessant et al., 1994). *CI* is improving processes and reducing errors to improve overall performance for the customer (Fryer et al., 2007; Dana, 2004). *CI* according to the Japanese approach called kaizen; which consists of two parts (Kai) and (Zen), as (Newitt, 1996; Imai, 1986) explained *Kai* means *Change* while *Zen* means *Good* (change to better), Kaizen actually means "continuous improvement and innovation – in everything – forever!" Thus, Deming (1982) defined *CI* as improve constantly and forever in production system and service Similarly. Imai (1997), defined *CI* as incremental improvement involving all employees in the organization. Juran et al. (1999) who was one of the pioneers in this field defined *CI* as meaningful change and achieve unprecedented levels of performance.

From all these definitions CI is where all members of the organization work together continuously and using the initiative, creativity, and innovation methodology to improve processes and reduce errors in light of customer satisfaction.

1.2. Dimensions of *CI* in the literature

Researchers took different dimensions to measure *CI*. Examples of these dimensions include those mentioned by Dale et al. (2007) cited three dimensions of *CI*: focus on client identification, mental and strategic efforts in decision-making. Aqili (2009) addressed *CI* through large steps (accelerated), where the focus is on the creation of new things and Innovation to replace the old. The study of Fabiane et al. (2021) was applied on companies that carry out process innovations and have continuous improvement initiatives, and demonstrate the result that *CI* has positive and statistically significant relationships with innovation performance. The MacLean (2021) conducted a study aimed at developing *CI* conceptual framework where it is formed from the following components: Awareness: user-centered, Understanding the system, Evaluate the system and measurement, Anchor practice through learning, Accelerate change through collaboration. The critical success factors for CI implementation are include: supportive delegation, effective communication, commitment to the CI initiative and employee empowerment (Thivya et al., 2019). The enabling factors of *CI* according Van Assen (2021) are leadership commitment, creation of *CI* culture and employee empowerment. Mokhtar et al. (2012) reviewed numerous scales used to success *CI* implementation and concluded key dimensions that utilized to measure this success: customer focus, Understanding of process, Use of data in decision-making, change management.

1.3. Dimensions of *CI* in the current study

The current study is concerned to find a comprehensive strategy for *CI* in the health care, the researcher was able to develop dimensions have been used to assess *CI* in terms of five dimensions: Client-centered, Process understands, Improvement Initiative, Creativity and Innovation. The researcher proposes the theoretical relationship between these variables, which will be in the form shown in Figure 1, where the spark of continuous improvement is launched from the improvement initiative, which creative ideas are generated from it, and then those ideas are converted to a practical reality through which we can understand the processes and activities within the organization in a way that ensures the production of good services that achieve client satisfaction.
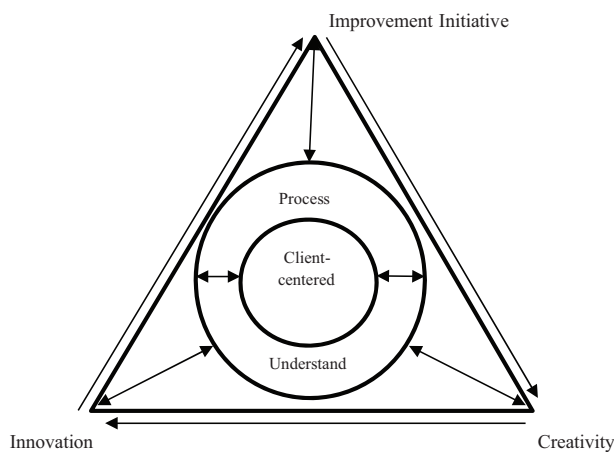

Figure 1. *CI* Model: Theoretical relationship according to the researcher's proposition and based on literature reviewed mentioned in Dimensions of *CI*

1.4. Definition of employee empowerment

Employee empowerment tended to revolve around issues of power, control, and considered a management technique used to motivate employees by delegating or sharing of power with them (Sahoo & Das, 2011), employee empowerment defines as a strategy that aims to free up the potential of individuals abilities and involve them in the processes of building the organization, which depends on Harmonize the needs of individuals with the vision of the organization (Brown, 1996). Evans and Lindsay (2020) define employee empowerment as giving individuals the power to make decisions based on what they feel is right, and they have control over work, and learn from their mistakes and encourage change. Also the empowering employees means the organization's recognition that employees have the capabilities, wisdom and hopes that generate the desire to enhance employee value by supporting them to serve their role in work and non-work in an environment of trust and tolerance in order to achieve the goals of the organization (Badjie et al., 2019). According to Gary and Becker (2006) employee empowerment is the process of enabling employees to take decisions, relating to their work, and controlled by management, but with assume full responsibility and risk for their actions.

1.5. Dimensions of employee empowerment in the literatures

Researchers took different dimensions to measure employee empowerment. Examples of these dimensions include those mentioned by Ukil (2016) cited four dimensions of employee empowerment: *Power* (Autonomy, Authority, Delegation), *Information* (Feedback, Role clarification, Motivation), *Knowledge* (Training, Counseling, Appraisal), *Rewards* (Compensation, Career planning, Job enrichment). Yin et al. (2019) developing a measure that can be used to evaluate employee empowerment practices and them proposed three dimensions: *Information sharing, Work autonomy, team accountability.* Banerjee (2019) reviewed numerous scales used to assess employee empowerment and concluded five dimensions at the level of individual and five dimensions at the level of organization utilized to measure this construct: individual level (task Meaning, Competence, Self-determination, Strategic autonomy, direct work Impact), organization level (Sharing information, Knowledge, Rewards, Communication, Self-managing team). Thamizhmanii and Hasan (2010), the following employee empowerment dimensions were used: *Knowledge and skills, Communication, Trust, Incentives.*

1.6. Dimensions of employee empowerment in this study

The current study, seven dimensions were used to measure employee empowerment as follows: *first – Information Sharing*: Choosing the direct way of communicating information to managers is an essential element of empowerment (Mahmoud & Mahmoud, 2007). *Second – Knowledge*: is an important resource and a key component of empowerment and expression of facts and information (Kim et al., 2017). *Third – Delegation Freedom & Autonomy:* are meant to give employees broad powers to take broader tasks and procedures (Mahmoud & Mahmoud, 2007). *Fourth – Organization Culture*: it helps to instill and sustain the values and behavior required by the organization, and helps individuals perform their duties properly (Areiqat & Zamil, 2011). *Fifth – Enabled Leadership*: creates empowerment opportunities and support employees; by delegating authority, engaging employees, assuming responsibilities, enhanced performance, motivating employees to innovate at work (Appelbaum et al., 2015). *Sixth – Empowerment processes:* such as access to information, access procedures, coordination between departments and management of the Organization, for building skill and capability of employees for changing roles and behaviors (Dimitmades, 2001). *Seventh – Work Team work:* It is the empowerment synergistic action it means that the sum of individual's performance efforts are greater than individual's inputs if they are separate (Robbins & Judge, 2009).

1.7. Relationship between employee empowerment strategy and *CI*

The recent studies, they were about the contextual factors that influence the relationship between empowerment practices and Organizational performance, the results indicated that employee empowerment had a positive impact on organizational performance, and they work efficiently and effectively to achieve organizational goals (Marjani & Alizadeh, 2014; Ahmad & Manzoor, 2017; Yin et al., 2019; Akingbola, 2013). But study of Banerjee (2019) has concluded that empowering employees if it is not planned in a comprehensive manner will not be effective in the organization and this was apparent by not significantly improving performance. Another Several studies have indicated the results show that there is a significant impact between empowerment and continuous improvement, so the Effective empowerment increase the level of employee satisfaction and allowed to employees encourages strategic thinking, creative problem-solving, decision making and make sound judgments concerning their job (Hirzel et al., 2017; Roslin et al., 2019; Ukil, 2016; Stewart, & Brown, 2009). As for the impact of empowerment on the quality of health care Metcalf et al. (2018) find that the use of employee empowerment was associated with higher quality health care, higher compliance with standards. Another study indicates that the empowerment of medical personnel in hospitals contributes to facilitating the environment for professional practice and staff commitment, satisfied employees and provide better service to the customers (Yang et al., 2013). The study of Fernandez and Moldogaziev (2013) point out that the various empowerment practices are working to convert creative initiatives into innovative behavior among front-line employees in the US federal. Sundbo (1999) also emphasized in his studies that the application of the empowerment process for employees in small and medium-sized service institutions can improve innovative and educational competencies when revealing the impact of empowerment on processes within the organization. Chandhok and Saranya (2019) concluded that empowering employees enhance motivation towards high productivity due to a positive correlation between motivation and empowerment which leads to momentum in effective organizational performance. Laschinger (2008) sees that the practice of empowerment in the professional environment of the hospital leads to positive and satisfactory results for the nursing and the patient and provides encouraging support for the ongoing efforts to create and maintain satisfactory healthy working conditions. And also Holt et al. (2000) (see that empowerment is only a first step in a fundamental rethinking of the way we do things and requires the implementation of empowerment outside the boundaries of the organization in order to embrace all stakeholders). While Alomari (2020) point out there is a positive impact of empowerment on customer satisfaction, through improving overall performance. On the basis of these studies, the *following hypotheses* were suggested:

Hypothesis (Ho1): There are no statistically significant differences for applying the practices of employee empowering between hospitals due to the variable of hospital type (government and private).

Hypothesis (Ho2): There are no statistically significant differences for applying the *CI* practices between hospitals due to the variable of hospital type (government or private).

Hypothesis (Ho3): There is no statistically significant impact of the employee empowerment on continuous improvement of health care whether the dimensions of *CI* (Client-centered, Process understand, improvement initiative, creativity, innovation) are combined or fragmented in hospitals. From this Hypothesis the following sub-hypotheses emerge:

- *Ho3-1* – There is no statistically significant effect of the employee empowerment on client-centered of *CI*.
- *Ho3-2* – There is no statistically significant effect of the employee empowerment on understanding the process of *CI.*
- *Ho3-3* – There is no statistically significant effect of the employee empowerment on improvement initiatives of *CI.*
- *Ho3-4* – There is no statistically significant effect of the employee empowerment on creativity of *CI.*
- *Ho3-5* – There is no statistically significant effect of the employee empowerment on innovation of *CI*.

2. Methodology

2.1. Research model

The model that developed for the purpose of the present study as exhibited in Figure 2 contains one independent variable (employee empowerment) with seven dimensions and one dependent variable (*CI*) with five dimensions. Thus, the model shows three main hypotheses and five sub-hypotheses that clarify the applying of employee empowering, *CI* and the impact of employee empowerment on *CI.* Independent variable (employee empowerment) was evaluated as a Whole Construct (as exhibited in Figure 2). In contrast, *CI* was assessed as a multidimensional construct comprised five dimensions: Client-centered, Process understands, Improvement Initiative, Creativity, and Innovation.

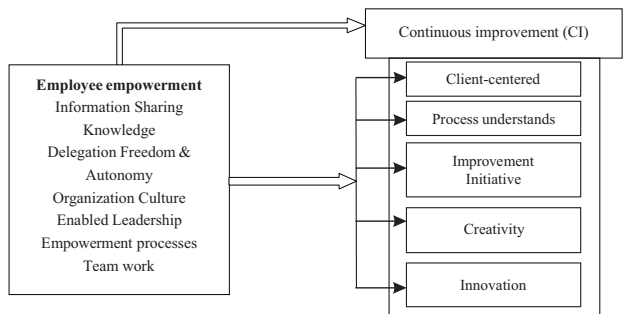### 2.2. Sample and data collection

Figure 2. The conceptual model

Table 1 shows that the government hospital sector constitutes 37.36% of the total number of beds in the public and private sectors, and that the total number of the target group is 156 respondents, representing the entire study population.

Table 1. Government hospital Sample characteristics
(source: Ministry of Health, 2020)

Num-ber	Govern-mental hospitals	Number of beds	Percentage of the total number of beds (government and private) in Amman	Number of target group	Sample number
1.	Al Bashir Hospital	967	24.14%	60	60
2.	Prince Hamzah Hospital	402	10%	54	54
3.	Dr. Jamil Al-Tu-tanji Hospital	129	3.22%	42	42
Total	–	1498	37.36%	156	156

Table 2 shows that the private hospitals that were selected as a sample from the study population constitute 34.5% of the total number of beds in the public and private

Table 2. Private hospitals sample characteristics
(source: Ministry of Health, 2020)

Num-ber	Privet hospitals	Num-ber of beds	Percentage of the total number of beds (government and private) in Amman	Number of target group	Sample number
1.	Islamic Hospital	275	6.86%	52	32
2.	Jordan Hospital	252	6.29%	42	26
3.	Specialist Hospital	200	5%	34	21
4.	Khalidi Hospital	160	4%	33	21
5.	Medical Arabic center	144	3.59%	32	20
6.	Isra Hospital	129	3.22%	35	22
7.	Istiklal Hospital	114	2.84%	25	15
8.	Istishari Hospital	108	2.69%	22	13
Total	–	1382	34.5%	275	170

sectors, and that the target group in them amounted to 275 respondents, and a simple random sample of 62% was taken of this category, it reached 170 respondents.

According to Table 1 and Table 2, the total number of the sample taken from the public and private sectors becomes 326 respondents. That is, 76% of the total number of the target group, which is (431) respondents. As for the process of collecting primary data, it was through the design of a questionnaire for the study, to collect the necessary information in the subject of the research, and then unpacking and analyzing it using the SPSS (Statistical Package for Social Sciences) program and using the appropriate statistical tests to reach valuable indications that support the subject of the study, where the researcher distributed (156) questionnaires directly to the upper and middle management in government hospitals, from them (150) questionnaires were retrieved. Then 170 questionnaires were distributed to the senior and middle management in private hospitals, 162 questionnaires were retrieved from them, and therefore the total of the retrieved questionnaires was (312) out of (326) questionnaires distributed, i.e., a retrieval rate of (96%).

2.3. Measures and instruments

Aiming to maintain consistency with the previous literature, the questionnaire has been designed based on the measures of the previous literature. The instruments of this study have been divided into two segments: measuring the respondents' perceptions of independent and dependent variables under investigation. A total of 44 items has been used in this study. In terms of measuring all these 44 items, a 5-point Likert scale has been used with an interval scale ranging from 1 (strongly disagree) to 5 (strongly agree), It was assigned to agree (5) very strongly, strongly agree (4), medium agree (3), disagree (2), and strongly disagree (1). Employee empowerment has been measured by investigating seven dimensions that have been emerged in the literatures: *Information Sharing, Delegation Freedom* (Mahmoud & Mahmoud, 2007), and *Knowledge* (Kim et al., 2017), and *Organization Culture* (Areiqat & Zamil, 2011), and *Enabled Leadership* (Appelbaum et al., 2015), and *enabled empowerment processes* (Dimitmades, 2001), and Finally *Work Team* (Robbins & Judge, 2009). **CI** has been analyzed with the five dimensions: first – *clients Focus*; A clear understanding of the needs and requirements of clients draws a road map for the process of continuous improvement (Luxford, 2010), second – *Understanding Process*: is one of the main pillars for process improvement and better quality (Goetsch & Davis, 2016, p. 487), third – *Improvement Initiative*: The upper Management Initiative and commitment is necessary to build and maintain a continuous quality improvement program (Lebrasseur et al., 2002, p. 160), fourth – *Creativity*: is not born out of nothing (Assaf, 2011), But it can be accessed through the idea of others to generate new ideas (Hughes, 2003), fifth – *Innovation*: the transform creative idea to creative work (Najm & Alhmeidiyeen, 2019).

2.4. Data analysis techniques

Raw data were analyzed using SPSS (Statistical Package of Social Science). A set of statistical techniques including descriptive analysis, Pearson correlations, regression analysis, Independent T. Test has been applied to analyze the gathered data. Pearson correlations and multiple regression they measure the levels of relationship and the extent of influence between variables (eight dimensions of employee empowerment to five dimensions of continuous improvement), and Stepwise Regression It helps to measure the impact strength of the variables that were mentioned previously. As for the (Independent T. Test) to show the statistically significant differences in the averages of the respondents' opinions between two independent samples (government hospitals and private hospitals). The reliability measures have been instituted by calculating the values of Cronbach's alpha Where appropriate values (Alpha ≥ 0.60) are practically reasonable in research related to management and humanities (Sekaran & Bougie, 2016). The values of alpha coefficient have been exhibited in Table 3. The number of cases, No. of items have also been presented in Table 3.

Table 3. Number of cases, No. of items, and Cronbach's Alpha

Dimensions	Number of cases	No. of items	Alpha
Employee Empowerment	311	8	0.938
Client-centered	310	6	0.948
Process understands	312	6	0.940
Improvement Initiative	310	8	0.921
Creativity	312	9	0.967
Innovation	311	7	0.965

Table 3 indicates that the stability coefficient of the study tool (Cronbach's alpha coefficient) ranged between (0.967) in front of Creativity phrases, and (0.921) in front of the Improvement Initiative variable phrases, which are two high coefficients, and much higher than (Alpha ≥ 0.60), which is the minimum acceptable value of Cronbach's alpha coefficient, which indicates that the study instrument, in general, has a high stability coefficient and its ability to achieve the objectives of the study.

3. Results

3.1. Descriptive analysis

Table 4 indicates that the mean of the employee empowerment in government hospitals reached (2.66) and with a standard deviation of (0.94), which indicates that the practice of empowerment in government hospitals to a medium degree, while in private hospitals, the mean was (3.57), with a standard deviation of (0.91), This indicates the practice of empowerment in private hospitals to a high degree. As for the mean of Client-centered in government hospitals, it reached (3.01) and with a standard deviation of (1.03), which indicates that the level of Client-centered in government hospitals was moderate, while in private hospitals The mean was (3.95), which indicates that the level of application of Client-centered in private hospitals was highly. Regarding process understand, the mean in government hospitals was (2.92) and with a standard deviation of (1.02), which indicates that the level of application of that dimension was at a medium degree, while in private hospitals, the mean of the dimensions of a process understand was (3.74), which indicates that the level of application of that dimension in private hospitals was in a high degree. Table 4 also indicates that the mean of implementing Improvement Initiative in government hospitals has reached (2.57) with a standard deviation of (1.05), which indicates that the level of that dimension in government hospitals was at a low degree, While the mean for the application of that dimension in private hospitals was (3.49) and with a standard deviation of (0.93), which indicates that the level of application in private hospitals was highly. Finally, the mean of creativity and innovation in government hospitals was: 2.27, 2.12, and the standard deviation: 0.93, 0.96, which indicates a low level of application, compared with the means of creativity and innovation in private hospitals, which respectively amounted to: 3.24, 3.15 and the standard deviation: 1.13, 1.15, which indicates a high level of application.

3.2. Results of hypotheses testing

Referring to the results of the data *Descriptive analysis* in Table 4 which is related to the means and standard deviation, and T-test of the levels of application of the study dimensions in government and private hospitals, where the study showed that there are differences in the

Table 4. Scores of means, standard deviation, and T-test

Dimensions	Governmental Hospitals N = 150		Private Hospitals N = 162		T-test	Significance (α ≤ 0.05)
	mean	S. D	mean	S. D		
Employee Empowerment	2.66	0.94	3.57	0.91	−8.69	0.00
Client-centered	3.02	1.03	3.95	0.86	−8.68	0.00
Process understands	3.10	1.02	3.74	0.88	−7.54	0.00
Improvement Initiative	2.57	1.05	3.49	0.93	−8.21	0.00
Creativity	2.27	0.93	3.24	1.13	−8.19	0.00
Innovation	2.12	0.96	3.15	1.15	−8.51	0.00

application levels of the independent variable (employee empowerment) between hospitals, and this rejects the null hypothesis (**Ho1**), which says: There are no statistically significant differences at the level of significance ($\alpha \leq 0.05$) in study members' attitudes towards the level of applying the strategy of employee empowering due to the variable of hospital type (government and private). Also the study showed that there are differences in the application levels of the dependent variables (Client-centered, Process understands, Improvement Initiative, Creativity, Innovation) between hospitals and this rejects the null hypothesis (**Ho2**), which says: There are no statistically significant differences at the level of significance ($\alpha \leq 0.05$) in study members' attitudes towards the level of application of health care CI due to the variable of hospital type (government and private). Regarding testing Hypothesis (**Ho3**) the study have been used multiple regressions analysis as shown in Table 5 and Table 6 to find out the impact relationship between the independent and dependent variables for the study.

It is clear from the results of the statistical analysis in Table 5 that indicates a strong correlation (0.849) between employee empowerment and *CI*, and the calculated value of (t) was (6.104), at the significance level of 0.000, which is indicated by (R2) the coefficient of determination, it reached (0.755), meaning that the employee empowerment explains its value (75.5%) of the variance in the level of CI in government hospitals, and the value of (Beta) reached (0.488), which means that the increase by one degree in the level of application of the employee empowerment leads to an increase in promoting CI in government hospitals by a value of (48.8%). This confirms the rejection of the null hypothesis (HO3).

The results in Table 5 regarding the impact of employee empowerment in the process of Client-centered in government hospitals, indicates that the calculated value of (t) was (4.894), at the significance level of 0.000, and the coefficient of determination R2 was (0.657), meaning that the employee empowerment explain the value of (65%) of the variation in the level of Client-centered

Table 5. Summary of multiple regressions analysis in *Governmental Hospitals*

Hypotheses	Independent variable	Dependent variable	R	R^2	Beta	"t" calculated	Sig	Result
Hypothesis (Ho3)	Employee Empowerment	continuous improvement	0.849	0.720	0.488	6.104	0.000	Significant impact = accept hypothesis
Sub-hypotheses		Dimensions						
Ho3-1	Employee Empowerment	Client-centered	0.811	0.657	0.534	4.894	0.000	Significant impact = accept hypothesis
Ho3-2	Employee Empowerment	Process understands	0.845	0.714	0.557	6.676	0.000	Significant impact = accept hypothesis
Ho3-3	Employee Empowerment	Improvement Initiative	0.769	0.602	0.591	5.658	0.000	Significant impact = accept hypothesis
Ho3-4	Employee Empowerment	Creativity	0.704	0.583	0.225	2.104	0.037	Significant impact = accept hypothesis
Ho3-5	Employee Empowerment	innovation	0.718	0.515	0.037	0.321	0.036	Significant impact = accept hypothesis

Table 6. Summary of multiple regressions analysis in *private Hospitals*

Hypotheses	Independent variable	Dependent variable	R	R^2	Beta	"t" calculated	Sig	Result
Hypothesis (Ho3)	Employee Empowerment	continuous improvement	0.860	0.739	0.860	21.288	0.000	Significant impact = accept hypothesis
Sub-hypotheses		Dimensions						
Ho3-1	Employee Empowerment	Client-centered	0.748	0.587	0.534	4.894	0.000	Significant impact = accept hypothesis
Ho3-2	Employee Empowerment	Process understands	0.835	0.697	0.457	5.342	0.000	Significant impact = accept hypothesis
Ho3-3	Employee Empowerment	Improvement Initiative	0.809	0.720	0.384	4.273	0.000	Significant impact = accept hypothesis
Ho3-4	Employee Empowerment	Creativity	0.791	0.705	0.285	3.088	0.002	Significant impact = accept hypothesis
Ho3-5	Employee Empowerment	Innovation	0.761	0.673	0.205	2.111	0.036	Significant impact = accept hypothesis

and the value of the influence degree β was (0.534) which means that the increase by one degree in the level of application of the employee empowerment leads to an increase in promoting Client-centered in government hospitals by a value of (53.4%), and this confirms the rejection of the first sub-null hypothesis (HO3-1). Also the results related to the impact of the strategy of employee empowerment in Process understands indicate that the calculated value of (t) was (6.676), at the significance level of 0.000, and the coefficient of determination R2 was (0.714), meaning that the employee empowerment explain the value of (71.4%) of the variation in the level of Process understands and the value of the influence degree β was (0.557) which means that the increase by one degree in the level of application of the employee empowerment leads to an increase in promoting Process understands in government hospitals by a value of (55.7%), and this confirms the rejection of the second sub-null hypothesis (HO3-2). While the results related to the impact of employee empowerment on initiative, creativity and innovation in government hospitals came as follows: calculated value of (t) respectively was (5.658, 2.104, 0.321) at the significance level respectively (0.000, 0.037, 0.036) and the coefficient of determination R2 was (0.602, 0.583, 0.515), and the value of the influence degree β respectively was (0.591, 0.225, 0.037), and this confirms the rejection of the third, fourth, fifth sub-null hypothesis (HO3-3, HO3-4, HO3-5).

Table 6 shows that the results of the statistical analysis in private hospitals, indicated that a strong correlation (0.860) between employee empowerment and *CI*, and the calculated value of (t) was (21.288), at the significance level of 0.000, it means the effect of employee empowerment in promoting the continuous improvement of health care in private hospitals, It also confirms by the coefficient of determination R2 was (0.739), meaning that employee empowerment explain the value of (73%) of the variance in the level of continuous development in private hospitals, and the value of (Beta) reached (0.860), which means that the increase by one degree in the level of application of the employee empowerment leads to an increase in promoting continuous improvement in private hospitals by a value of (86%). This confirms the rejection of the null hypothesis (HO3).

The results in Table 5 regarding the impact of employee empowerment in the process of Client-centered in Private hospitals, indicates that the calculated value of (t) was (4.894), at the significance level of 0.000, and the coefficient of determination R2 was (0.587), meaning that the employee empowerment explain the value of (58.7%) of the variation in the level of Client-centered and the value of the influence degree β was (0.534) which means that the increase by one degree in the level of application of the employee empowerment leads to an increase in promoting Client-centered in private hospitals by a value of (53.4%), and this confirms the rejection of the first sub- null hypothesis (HO3-1). Also the results related to the impact of the strategy of employee empowerment in Process understands indicate that the calculated value of (t) was (5.342),

at the significance level of 0.000, and the coefficient of determination R2 was (0.697), meaning that the employee empowerment explain the value of (69.7%) of the variation in the level of Process understands and the value of the influence degree β was (0.457) which means that the increase by one degree in the level of application of the employee empowerment leads to an increase in promoting Process understands in private hospitals by a value of (45.7%), and this confirms the rejection of the second sub-null hypothesis (HO3-2). While the results related to the impact of employee empowerment on initiative, creativity and innovation in private hospitals came as follows: calculated value of (t) respectively was (4.273, 3.088, 2.111) at the significance level of (0.000, 0.002, 0.036) and the coefficient of determination R2 respectively was (0.720, 0.705, 0.673), and the value of the influence degree β was (0.591, 0.225, 0.037), and this confirms the rejection of the third, fourth, fifth sub- null hypothesis (HO3-3, HO3-4, HO3-5).

4. Discussion

4.1. Original purposes of the research and implications

The purpose of this study was to test three main hypotheses regarding the impact of employee empowerment on *CI* of Health Care in Hospitals (government and private). The first hypothesis **(Ho1):** There are no statistically significant differences at the level of significance (α ≤ 0.05) in study members' attitudes towards the level of applying the strategy of employee empowering due to the variable of hospital type (government and private) **was** strongly rejected by the data in *Governmental hospitals*; which indicates the practice of empowerment and the participation of employees in governmental hospitals to a medium level, and strongly rejected by the data in *private hospitals*; which indicates the practice of empowerment and the participation of employees in *private hospitals* to high level; These results are attributed to the belief of the Hospital management that the delegation of authority and the participation of employees increase the organizational agility and the response of employees to improve the patient experience and thus achieve the strategic goals of the hospital. The second hypothesis **(Ho2):** There are no statistically significant differences at the level of significance (α ≤ 0.05) in study members' attitudes towards the level of application of health care continuous improvement due to the variable of hospital type (government and private) **was** strongly rejected by the data in *Governmental hospitals*; which indicates the practice of Continuous improvement (all dimensions) in governmental hospitals to a low level; this decline in the continuous improvement process can be explained by infrastructure and organizational defects, lack of human and material resources, as well as other challenges related to legislation, laws, regulations and government policies. And strongly rejected by the data in *private hospitals*; which indicates the practice of Continuous

improvement (all dimensions) in *private hospitals* to high level; This result can be explained by the interest of private hospital management in the quality system and improving the patient experience and thus achieving competitiveness And increasing market share and profits. The third hypothesis **(Ho3):** There is no statistically significant impact at the level ($\alpha \leq 0.05$) of the employee empowerment on continuous improvement of health care whether the dimensions of *CI* (Client-centered, Process design, improvement initiative, creativity, innovation) are combined or fragmented in hospitals (government, private) **was** strongly rejected by the data in *Governmental and private hospitals*; which indicates the strong impact of the employee empowerment practices on the process of *CI* of health care in all its five dimensions.

The comparison between governmental and private hospitals regarding the impact of the independent variable on the dependent variable in all its dimensions. The study showed through statistical analyzes that the impact data of the employee empowerment workers have shown a high explanatory capacity for variations in the *CI* of health care, and the result in the public and private sectors came close to Somewhat. This can be explained by the fact that Jordanian hospitals are keen to implement royal initiatives in achieving high-quality health care, and obligating the hospital sector in Jordan to join national and international accreditation programs, which in turn established a methodology and established a culture that supports the *CI* and development of health care.

Studies on the effect of employee empowerment on **CI** are very few and therefore it is not easy to find previous studies that are consistent with or different from the results of the current study. In any event, it can be said that employee empowerment was associated with higher quality health care (Metcalf et al., 2018). A study by Yang et al. (2013) Concluded that empowering employees provide better service to the customers. The application of the empowerment process for employees can improve innovative and educational competencies (Sundbo, 1999), and the various empowerment practices are convert creative initiatives into innovative behavior (Fernandez & Moldogaziev, 2013). While Alomari (2020) point out there is a positive impact on improving overall performance. Ultimately, the study concluded that employee empowerment leads to an increase in promoting CI in government and private hospitals.

Conclusions

The study concluded that empowerment practices in all its dimensions in hospitals, both governmental and private, enhance the capabilities of individuals to launch improvement initiatives that help unleash the mental energies of individuals and produce creative ideas and innovative applications that help to understand the processes and activities within hospitals, which ultimately lead to CI of health care, which appears more strongly in private hospitals than in government hospitals.

Limitations

The researcher faced some limitations related to the difficulty of the procedures that precede the approval of distributing questionnaires in governmental hospitals, the time taken to distribute the questionnaires to the sample members, and the waiting period of up to a month until they are answered, due to the work load in those hospitals. Also the researcher face some difficulties in private hospitals due to the privacy and competitiveness between them, which increase in the complexity of the approval and distributing questionnaires to the respondents.

Direction for future research

The future studies should consider that this research was implemented in Jordan health sector, which is a developing country; therefore, future studies should go towards conducting such research in developed countries in order to discover the perspective of implementing employee empowerment practices and its role in transforming creative ideas into innovative reality in hospitals. The study gives decisive advice for health care organizations on how they can improve the quality of health care services by encouraging the practices of employee empowerment. As a result, if the findings are put into practice, they may result in **CI** of patient experience outcomes in hospitals.

References

Ahmad, I., & Manzoor, S. R. (2017). Effect of teamwork, employee empowerment and training on employee performance. *International Journal of Academic Research in Business and Social Sciences, 7*(11), 380–394. https://doi.org/10.6007/IJARBSS/v7-i11/3472

Akingbola, K. (2013). A model of strategic nonprofit human resource management. *Voluntas: International Journal of Voluntary and Nonprofit Organizations, 24*(1), 214–240. https://doi.org/10.1007/s11266-012-9286-9

Alomari, K. (2020). Management bias as a cause of employee weak performance: Case study at Jadara University. *Management Science Letters, 10*(1), 1729–1736. https://doi.org/10.5267/j.msl.2020.1.007

Appelbaum, S. H., Karasek, R., Lapointe, F., & Quelch, K. (2015). Employee empowerment: Factors affecting the consequent success or failure (Part II). *Industrial and Commercial Training, 47*(1), 23–30. https://doi.org/10.1108/ICT-05-2013-0034

Aqili, O. W. (2009). *Contemporary human resource management is a strategic dimension*. Wael Publishing House.

Areiqat, A., & Zamil, A. (2011). The role of empowerment in crisis management in business organizations. *Asian Journal of Business Management, 3*(3), 188–195. https://www.researchgate.net/publication/220007632

Assaf, A. M. M. (2011). *Scientific theory of management, management theory of values*. Zahran Publishing & Distribution House.

Aul, K., Bagnall, L., & Bumbach, M., Gannon, J., Shipman, S., McDaniel, A., & Keenan, G. (2021). A key to transforming a nursing curriculum: Integrating a continuous improvement simulation expansion strategy. *SAGE Open Nursing, 7*. https://doi.org/10.1177/2377960821998524

Badjie, G., Thoyib, A., Hadiwidjojo, D., & Rofiq, A. (2019). Introducing new employee empowerment approach: A systematic literature review. *Humanities & Social Sciences Reviews, 7*(5), 696–706. https://doi.org/10.18510/hssr.2019.7585

Bailie, R., Matthews, V., Brands, J., & Schierhout, G. (2013). A systems-based partnership learning model for strengthening primary healthcare. *Implementation Science, 8*(143), 1–12. https://doi.org/10.1186/1748-5908-8-143

Banerjee, S. (2019). Employee empowerment and job performance: The case of a few selected BPOs/KPOs in the city of Pune. *International Journal of Engineering and Advanced Technology (IJEAT), 8*(6S). https://doi.org/10.35940/ijeat.F1150.0886S19

Barberato Henrique, D., Godinho Filho, M., Marodin, G., Lopes de Sousa Jabbour, A. B., & Chiappetta Jabbour, Ch. J. (2020). A framework to assess sustaining continuous improvement in lean healthcare. *International Journal of Production Research, 59*(10), 2885–2904. https://doi.org/10.1080/00207543.2020.1743892

Berwick, D. M. (2019). Sounding board: Continuous improvement as an ideal in health care. In *Management of health care* (pp. 183–186). Routledge. https://doi.org/10.4324/9780429450242-17

Bessant, J., Caffyn, S., Gilbert, J., Harding, R., & Webb, S. (1994). Rediscovering continuous improvement. *Technovation, 14*(1), 17–29. https://doi.org/10.1016/0166-4972(94)90067-1

Bhuiyan, N., & Baghel, A. (2005). An overview of continuous improvement: From the past to the present. *Management Decision, 43*(5), 761–771. https://doi.org/10.1108/00251740510597761

Brown, D. (1996). *An experimental approach to organization development*. Prentice-Hall.

Butler, M., Szwejczewski, M., & Sweeney, M. (2018). A model of continuous improvement programmed management. *Production Planning & Control, 29*(5). https://doi.org/10.1080/09537287.2018.1433887

Chandhok, G., & Saranya, J. (2019). The impact of employee empowerment in organizational performance with special reference to IT sector. *International Journal of Recent Technology and Engineering (IJRTE), 8*(2S8), 2277–3878. https://doi.org/10.35940/ijrte.B1090.0882S819

Daft, R. (2010). *Organization theory and design* (10 ed.). South-Western Cengage Learning.

Dale, B. G., Van Der Wiele, T., & Van Iwaarden, J. (2007). *Managing quality*. John Wiley & Sons.

Dana, B. (2004). *Continuous quality improvement (CQI) readiness assessment process and tool*. American Health association.

Deming, W. E. (1982). *Quality, productivity and competitive position*. Massachusetts Institute of Technology.

Dimitmades, Z. S. (2001). Empowerment in total quality: Designing and implementing effective employee decision-making strategies. *Quality Management Journal, 8*(2), 19–28. https://doi.org/10.1080/10686967.2001.11918949

Evans, J. R., & Lindsay, W. M. (2020). *Managing for quality and performance excellence* (11th ed.). Cengage Learning.

Fabiane, L. Toledo, J. Dario, A. (2021). Relationship between continuous improvement and innovation performance: An empirical study in Brazilian manufacturing companies. *Total Quality Management & Business Excellence, 32*(9), 981–1004. https://doi.org/10.1080/14783363.2019.1653178

Fernandez, S., & Moldogaziev, T. (2013). Employee empowerment, employee attitudes, and performance: Testing a causal model. *Public Administration Review, 73*(3), 490–506. https://doi.org/10.1111/puar.12049

Fryer, K. J., Antony, J., & Douglas, A. (2007). Critical success factors of continuous improvement in the public sector: A literature review and some key findings. *The TQM Magazine, 19*(5), 497–517. https://doi.org/10.1108/09544780710817900

Gary, Y., & Becker, W. (2006). Effective empowerment in organizations. *Organization Management Journal, 3*(3), 210–231. https://doi.org/10.1057/omj.2006.20

Gatchalian, M. M. (1997). People empowerment: The key to TQM success. *The TQM Magazine, 9*(6), 429– 433. https://doi.org/10.1108/09544789710187037

Gilmore, S. (2013). Introducing human resource management. In S. Gilmore, & S. Williams (Eds.), *Human resource management* (2nd ed., pp. 3–20). Oxford University Press.

Goetsch, D. L., & Davis, S. B. (2016). *Quality management for organizational excellence* (6th ed.). Prentice Hall.

Graham, R. N. J., & Woodhead, T. (2020). Leadership for continuous improvement in healthcare during the time of COVID-19. *Clinical Radiology, 76*(1), 67–72. https://doi.org/10.1016/j.crad.2020.08.008

Hirzel, A.-K., Leyer, M., & Moormann, J. (2017). The role of employee empowerment in the implementation of continuous improvement: Evidence from a case study of a financial services provider. *International Journal of Operations & Production Management, 37*(10), 1563–1579. https://doi.org/10.1108/IJOPM-12-2015-0780

Holt, G. D., Love, P. E. D., & Jawahar Nesan, L. (2000). Employee empowerment in construction: An implementation model for process improvement. *Team Performance Management: An International Journal, 6*(3/4), 47–51. https://doi.org/10.1108/13527590010343007

Hughes, G. D. (2003). Add creativity to your decision processes. *The Journal for Quality and Participation, 26*(2), 4.

Imai, M. (1997*). Gemba Kaizen: A commonsense, low-cost approach to management*. McGraw Hill.

Imai, M. (1986). *KAIZEN: The key to Japan's competitive success*. McGraw-Hill.

Jevanesan, Th., Antony, J., Rodgers, B., & Prashar, A. (2019). Applications of continuous improvement methodologies in the voluntary sector: A systematic literature review. *Total Quality Management & Business Excellence, 32*(3–4), 431–447. https://doi.org/10.1080/14783363.2019.1588723

Juran, J. M., Godfrey, A. B., Hoogstoel, R. E., & Schilling, E. G. (1999). *Juran's quality handbook* (5th ed.). McGraw Hill.

Kaye, M., & Anderson, R. (1999). Continuous improvement: The ten essential criteria. *International Journal of Quality & Reliability Management, 16*(5), 485–509. https://doi.org/10.1108/02656719910249801

Kim, P. B., Lee, G., & Jang, J. (2017). Employee empowerment and its contextual determinants and outcome for service workers: A cross-national study. *Management Decision, 55*(5), 1022–1041. https://doi.org/10.1108/MD-02-2016-0089

Lameijer, B. A., Boer, H., Antony, J., & Does, R. J. M. M. (2021). Continuous improvement implementation models: A reconciliation and holistic metamodel. *Production Planning & Control*. https://doi.org/10.1080/09537287.2021.1974114

Laschinger, H. K. S. (2008). Effect of empowerment on professional practice environments, work satisfaction, and patient care quality: Further testing the nursing work life model. *Journal of Nursing Care Quality, 23*(4), 322–330. https://doi.org/10.1097/01.NCQ.0000318028.67910.6b

LeBrasseur, R., Whissell, R., & Ojha, A. (2002). Organisational learning, transformational leadership and implementation of continuous quality improvement in Canadian hospitals. *Australian Journal of Management, 27*(2), 141–162. https://doi.org/10.1177/031289620202700203

Luxford, K. (2010). The forgotten tenet: Client focus and quality improvement in health care. *Building Quality in Health Care, 4*(2), 10–12.

MacLean, S. (2021). A conceptual continuous improvement framework to examine the "problems of understanding" applied research. *Higher Learning Research Communications, 11*(2) 1–21. https://doi.org/10.18870/hlrc.v11i2.1252

Mahmoud, S. M., & Mahmoud, A. H. (2007). Empowering factors in enhancing the leadership characteristics of the director (analytical study of the opinions of directors working in the Ministry of Higher Education and Scientific Research). *Journal of Management and Economics, 67.*

Marjani, A. B., & Alizadeh, F. (2014). The impact of empowerment on employees performance in standards office of Tehran. *International Journal of Academic Research in Economics and Management Sciences, 3*(4), 36–43. https://doi.org/10.6007/IJAREMS/v3-i4/1055

McDermott, O., Antony, J., Sony, M., & Daly, S. (2022). Barriers and enablers for continuous improvement methodologies within the Irish pharmaceutical industry. *Processes, 10*(1), 73. https://doi.org/10.3390/pr10010073

Metcalf, A. Y., Habermann, M., Fry, T. D., & Stoller, J. K. (2018). The impact of quality practices and employee empowerment in the performance of hospital units. *International Journal of Production Research, 56*(18), 5997–6014. https://doi.org/10.1080/00207543.2018.1475763

Ministry of Health. The Hashemite Kingdom of Jordan. (2020). *Annual Report.* www.moh.gov.jo

Mokhtar, R., Jaafar, N. H., Sukiman, S. A., & Rahman, A. B. A. (2012). Continuous Quality Improvement (CQI) readiness towards Malaysian Quality Assurance (MQA). In *International Conference on Management, Economics and Finance Proceeding* (pp. 231–241). ResearchGate.

Najm, N. A., & Alhmeidiyeen, M. S. (2019). Managerial innovation: An attempt to interpretation and evaluation. *Review of Applied Socio- Economic Research, 17*(1), 26–41.

Newitt, D. (1996). Beyond BPR & TQM – Managing through processes: Is Kaizen enough? In *IEE Colloquium on Beyond TQM and Re-Engineering-Managing Through Process.* IET. https://doi.org/10.1049/ic:19960785

Pérez Rave, J. I., Fernandez Guerrero, R., & Correa Morales, J. C. (2020). Critical thinking and continuous improvement: A scientific text mining approach. *Total Quality Management & Business Excellence, 33*(1–2). https://doi.org/10.1080/14783363.2020.1787824

Robbins, S. P., & Judge, T. A. (2009). *Organizational behavior.* Pearson Prentice Hall.

Rodgers, B., & Jiju, A. (2021). In pursuit of a culture of continuous improvement: Scotland's national ambulance service. *International Journal of Public Administration.* https://doi.org/10.1080/01900692.2021.2009857

Roslin, E. N., Ahmed, S., Ahamat, M. A., Bahrom, M. Z., & Ibrahim, N. (2019). The impact of employee involvement and empowerment in Lean Manufacturing System implementation towards organizational performances. *International Journal on Advanced Science Engineering and Information Technology, 9*(1), 188–193. https://doi.org/10.18517/ijaseit.9.1.7116

Ross, B., Sibthorpe, B., & Gardner, K., & Si, D. (2008). Quality improvement in indigenous primary health care: History, current initiatives and future directions. *Australian Journal of Primary Health, 14*(2), 53–57. https://doi.org/10.1071/PY08022

Sahoo, C. K., & Das, S. (2011). Employee empowerment: A strategy towards workplace commitment. *European Journal of Business and Management, 3*(11), 46–54.

Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill-building approach* (7th ed.). John Wiley & Sons.

Stewart, G. L., & Brown, K. G. (2009). *Human resource management: Linking strategy to practice* (1st ed.). John Wiley & Sons Inc.

Sundbo, J. (1999). Empowerment of employees in small and medium-sized service firms. *Employee Relations, 21*(2), 105–127. https://doi.org/10.1108/01425459910266385

Thamizhmanii, S., & Hasan, S. (2010). A review on an employee empowerment in TQM practice. *Journal of Achievements in Materials and Manufacturing Engineering, 39*(2), 204–210.

Ukil, M. I. (2016). The impact of employee empowerment on employee satisfaction and service quality: Empirical evidence from financial enter prizes in Bangladesh. *Business: Theory and Practice, 17*(2), 178–189. https://doi.org/10.3846/btp.2016.651

van Assen, M. F. (2021). Training, employee involvement and continuous improvement – the moderating effect of a common improvement method. *Production Planning & Control, 32*(2), 132–144. https://doi.org/10.1080/09537287.2020.1716405

Yang, J., Liu, Y., Huang, C., & Zhu, L. (2013). Impact of empowerment on professional practice environments and organizational commitment among nurses: A structural equation approach. *International Journal of Nursing Practice, 19*(S1), 44–55. https://doi.org/10.1111/ijn.12016

Yin, Y., Wang, Y., & Lu, Y. (2019). Antecedents and outcomes of employee empowerment practices: A theoretical extension with empirical evidence. *Human Resource Management Journal, 29*(4), 1–21. https://doi.org/10.1111/1748-8583.12243