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Designing a model to manage succession planning in the banking system via structural equations method (Case study: Agricultural Bank)

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Abstract

Succession is among the most optimal programs available to provide the most competent workforce for an organization's key positions when required. The primary objective of this research is to design a comprehensive model of succession management within the banking system. This study is a developmental and applied research in terms of its purpose classification. As far as its nature and method classification, it is a descriptive survey and exploratory research with the utilization of a questionnaire. The statistical population consisted of all banking sector staff members (executive, managerial, supervisory, experts, specialists as well as their assistants (Agricultural Bank). The number was approximately 340 people. In order to determine the number of samples and consistent with the statistical population table, the Krejcie & Morgan decision-making model was utilized. In line with the statistical population, 180 samples were selected. The research model comprises of 5 indicators and 34 components. The model was validated/confirmed with the LISREL software. The components and indicators for succession in key occupations of the Agricultural Bank were identified and the final model was presented. The introduced model is the first such model for the Agricultural Bank. As a consequence of the comprehensiveness of its factors, it has a high capability to be generalized for other similar regulatory organizations.

Keywords: succession management, meritocracy, agricultural bank
2020 MSC: 65H20

Introduction

Succession is a process wherein the appropriate employees are selected to hold top management and key executive positions in an organization from among qualified and talented individuals [27, 46]. Key jobs are those that are difficult to fill, are rarely dependent on individuals, and are important for securing the future of an organization [13]. This process can be readily explained in several steps. First off, in line with the conducted planning, an overview of the organization's requirements for senior executives is obtained. Thereafter, an assessment is made on which employees might be better suited (and be more successful) than others to fill one of the organization's key positions when it becomes vacant. Ultimately, planning is undertaken to enable these potential successors to acquire the requisite capabilities and attributes to achieve the organization's objectives [27]. Accordingly, successful and forward-looking

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executive should identify and manage talents within the human resources of their organization toward holding key and sensitive positions in the future and prepare them to play such a role by appropriately preparing them (educational & training programs, etc.).

Research literature

By definition, succession planning is the process by which the right people are selected from among qualified and talented individuals to occupy senior and key management positions in an organization. Individuals eligible for senior or key executive positions/occupations in an organization are picked out and recruited from among qualified candidates. Vital jobs are those that are difficult to fill, are rarely dependent on individuals, and are critical to ensuring the future success of an organization [27, 46].

Succession planning is a significant issue in today's business world. Succession translates into individuals within the organization being trained to hold higher positions/ranks and the necessary grooming/preparation being undertaken to teach qualified employees for that job. For a long time, succession was regarded as dangerous and a threat to the upper echelons. They believed that when lower-ranking employees acquire the knowledge and skills of the position they currently occupy, their jobs, they could be replaced and lose their place within the organization. Nowadays, the issue of succession planning is the reverse of the past and is considered as a factor of success and development/growth for organizations. In fact, the entire workforce endeavors to help and prepare the individual for the higher position by providing the requisite training. But what training to give to whom, as well as what jobs are suitable for whom, remain noteworthy issues. In recent years, succession management is implemented via a process called talent management. Through this process, human talents within the organization are identified and designated as qualified to hold key jobs and positions in the coming years and they are gradually prepared to take on these jobs and responsibilities via undertaking various educational programs [2].

Table 1: Succession management definitions-A summary

Author	Year	Succession Management Definitions
Roswell	2017	Succession Management Is The Process Of Grooming/Preparing Individuals To Meet The Organization's Talent Requirements Over A Long Period Of Time
Alberta Government	2017	Succession Management Is A Systematic Approach Toward Ensuring A Constant Supply Of The Best/Optimal Talent By Helping To Develop These Individuals
Roswell	2016	Process Of Grooming/Preparing Individuals To Take On Higher Responsibilities

In a study, Delkhosh et al. [17] examined the factors that are key to a successful succession management of school principals (District 4, Tehran's Department of Education). The objective of the present study was to assess key factors to successful succession management of school principals. The Statistical population of the research included all school principals in Tehran's District 4 o which is the number (total of 368 schools). To determine the sample size, the Cochran's formula and the stratified random sampling method was utilized (192 schools were sampled). The research method in this research was descriptive-survey and the data collection tool was the Kim's (2016) standard viewpoint questionnaire (99 questions). The validity and reliability of the questionnaire was calculated and the reliability coefficient of 0.96 was obtained. The data was analyzed via the SPSS software, utilizing the inferential statistical method of chi-square and Friedman. The obtained findings are as follows: evaluation of candidates with a chi-square rate of 91.185 (highest impact), then the development of candidates with a chi-square of 81.69, evaluating the effectiveness of succession management with chi-square of 93.58 and finally determination of policy with the Chi-square of 12.39, with the alpha level of 5%, which is significant.

Ghorbani [23] in a study, discussed the establishment of succession management evaluation centers, which is a new succession system approach within the banking industry. The research findings revealed a shortage of qualified managers/executives and the increasing need of organizations for more capable, talented, skilled and competent managers than those available today's managers. Moreover, the study pointed out that identifying competent managers will be among the most fundamental challenges for organizations in the coming years.

For this purpose, many forward-looking organizations are looking to devise serious succession management programs toward meeting their future requirements in this field. Obviously, running these programs requires the utilization of reliable assessment techniques that can properly analyze the requisite capabilities. Consequently, evaluation centers are among the processes that are highly credible and effective regarding this topic. The evaluation centers assesses

qualified candidates to via an evaluation team and by utilizing a variety of exercises and tests (primarily used for selecting individuals to hold managerial/executive positions In this process, one can learn from the experiences of capable executive in areas such as design and development of capabilities, identification of internal and external talents, conducting evaluations, etc. this can likely help ensure overcoming challenges and achieving success for the organization. This article has endeavored to introduce evaluation centers as well as discuss methods of benefiting from the experiences of executives vis a vis evaluation centers.

Allameh et al. [3], in a study, presented strategies for implementing succession management. In the article, the current status of the succession management system in the oil industry, based on the Kim model, was examined in 4 stages. Out of 174 managers/executive of the National Oil Company's headquarters, 62 were selected by stratified random sampling and a researcher-made questionnaire was distributed among them. Thereafter, utilizing the mean comparison test, the gap between the prevailing and the desired status was displayed. The findings demonstrated that the existing succession management in the oil industry is unsatisfactory and requires more attention. Also, even if the desired situation exists, the components are important and there is a need for them. Furthermore, using the Abernaty & Clark model, 4 circumstances: 1-emerging 2-priorities 3-capacities 4-perceptions were analyzed and strategies were proposed for each circumstance. The aim was to examine different situations that various organizations may encounter in the implementation of this system.

Friedman [21] in a survey research described the characteristics of succession systems with respect to seven distinct dimensions; These dimensions are: 1-formality 2-control systems 3-resource allocation 4-data/information systems 5-political indicators 6-technical indexes 7-role of workforce. Among the key factors in successfully reimplementing succession planning is documentation. Abiding by the requirements, as well as rules & regulations of the program are among the priorities. It is essential to prepare and devise a task statement, and to plan policies. Documents should be understandable and clear and involve all parties within the organization. Documentation in the succession program helps in the accomplishment of the plan's objectives; This also enables pursuing the plan, findings and outputs of the program, plus makes it possible to undertake corrections/revisions during the program (Wolf, 2014).
Groves (2016), in a research of thirty large organizations tried to address the relationship between nurturing/fostering managers and leaders with succession. Groves recommended the following methods for developing managers/executives: 1- 360-degree feedback 2- training senior managers 3-relationship mentoring 4- networking 5- career missions/assignments 6- learning by doing.

Huang [27] cites other research as the primary components of any succession program, as follows: strategic vision, open and effective communication channels, managerial support, systematic approach to identifying candidates and encouraging managers to promote their best employees, participation, feedback & action.

A study by UK's CIPD stipulated that 90% of respondents believed that "talent management" could have a positive impact on the company's business, and more than half believed that almost everything falls into the category of talent management activities. According to a study by Manpower (2016) conducted on approximately 33,000 employees in 23 countries, organizations are terribly struggling to fill key positions with talented individuals. About 40% of executives complain about the problem of filling positions due to the lack of talent in the market. In line with Martin & Hattrick's (2006) findings, talent is as valuable as economic knowledge and is growing steadily all the time and becoming more valuable and prominent.

Research methodology

The foundation and validity of any research is contingent on the methodology utilized. Research methodology is recognized as a systematic process for answering a question or solving a problem. Considering that the purpose of this study is to design a comprehensive model of succession management in the banking system "Case Study: Agricultural Bank", therefore, this survey is a descriptive research and a sociometrist study.

Type of research

Compliant to one of the most common objective-based categories of research, a study is either basic/decremental or applied. Considering that the present study seeks to provide solutions and recommendations toward minimizing these barriers and challenges by delving into and identifying a comprehensive model of succession management within the banking system, it therefore fits in the framework of applied research.

Data collection methods

As noted, the focus of the present research method is descriptive-survey; However, with the aim of benefiting from pluralism in the research method, other complementary methods such as field research shall also be utilized. Therefore, data collection tools are primarily quantitative (such as questionnaires), but other methods of data collection, especially for qualitative and field research will also be used. With regard to the mentioned explanations, the data collection tools and methods are as follows:

1. Utilizing a questionnaire as among the primary data collection tools;
2. Interviews with senior managers/executives of the banking system (Case Study: Agricultural Bank) and pertinent professors;
3. Documents, especially employment & human resources rules & regulations in government organizations, specifically the banking system (Case Study: Agricultural Bank);
4. Library information, articles and studies available in libraries, research centers and on the Internet relevant to the subject matter.

1 Research's theoretical framework & conceptual model

Various and multiple structures and processes have been proposed for succession management in previous studies. In the proposed structure for a succession program, the organization's key occupations that are the program's target must first be identified. Thereafter, a suitable solution is proffered on how to determine the capabilities (or competencies) required for success in these jobs. Pursuant to these two steps, it is required to identify potential successors in a befitting way and create a reservoir of talent. From there onward, the program will focus on training and developing the candidates in the talent reservoir and continuously evaluate and assess their progress. Ultimately, if necessary, a suitable replacement for the target job is selected based on the predetermined criteria and procedures. In addition to these steps, support from the organization's senior managers/executives has been identified as among the crucial elements impacting succession programs. Nowadays, in many instances, succession programs, in addition to senior management jobs, are increasingly focusing on key jobs at all organizational levels [13].

Research's conceptual model

Consistent with previous studies on job and employee characteristics, succession management indexes have been devised. The table below displays the model variables and identifiers.

Statistical population & sample

The statistical population of the present study is all staff (including management, supervisory level, experts, assistants, etc.) in the banking sector (Agricultural Bank), approximately 340 people. As mentioned earlier, the number of employees is not definitive and is constantly changing. Therefore, in line with the studies performed and consistent with the trend rate, the approximate average of the statistical population is around 340, consisting of organizational positions heretofore in this research alluded to.

Sampling method & number of samples

In order to determine the number of samples and according to the statistical population table, the Krejcie & Morgan decision making model was utilized, providing a scientific and generalizable guide [33]. Consistent with the statistical population of about 340 people, 180 samples were selected, and thereafter, 180 questionnaires were prepared and distributed among them.

Data gathering/collection tools

In any research, collecting real information according to the objectives of the research is of fundamental importance. In general, research data are collected based on three general methods, each of which covers specific dimensions of the research model. These tools will include review of available documents (library study), questionnaires and interviews. In this research, the library method was used to collate information related to the theoretical foundations of the research (initially based on survey methods utilizing fishing tools). The second chapter and some parts of the first and third chapters were devised in this manner. Questionnaires and interviews were also deployed to collect the data needed to test the research hypotheses.

Table 2: Model variables & related identifiers

Row	Indicator/Index	Source
1	Precise Determination Of Succession Objectives Within The Organization	Martin [32], Gonzalez [24]
2	Elucidating Objectives, Values & Broad Strategy	Martin [32], Weiss Newsky [58], Bowman [6], Spandlow [51], Smith et al. [50], Ronaldson [45], (University of Frostberg, Maryland), (University of Florida), Nourshahi [36], (Cheetahs et al., 2018), Crepe and Mansfeld [15], Owens et al. [38], Harris et al. [25], (Rochester, 2017), Zenger & Folkman [29], (Vitala, 2017), Cochran [12], Abol Alaei and Ghaffari [1], (Social Security Organization, 2006)
3	Determining Processes (Rules, Procedures, Direction)	Spandlow [51], (University of Manchester), Nourshahi [36]
4	Career Planning & advancement & Work Requirements	Martin [32], Ronaldson [45], Boyatzis [7], Schroeder [49], Topping [57], Kerry and Goldman [30], Crepe and Mansfeld [15]
5	Empowerment & Training Of Specialized & Technical Personnel	(University of Chicago), Pedler [40], Schroeder [49], Dulwicks [20], Kerry and Goldman [30], Zenger & Folken [29], Cochran [12]
6	Empowerment With The Objective Of Succession	Pandar [39], Ramsden [44], Weiss Newsky [58], Spandlow [51], Ronaldson [45], (University of Frostberg, Maryland), (University of Florida), Saatchi and Azizpour [**?**], Delwicks [20], Kerry and Goldman [30], Crepe and Mansfeld [15], Zenger & Folken [29]
7	Empowering Strategic Thinking Training	Saatchi and Azizpour [**?**], Weiss Newsky [58], (University of Chicago), Boyatzis [7], Pedler [40], Schroeder [49], Delwicks [20]
8	Empowerment With The Aim Of Managerial Capabilities	Pandar [39], (University of Florida), (University of Chicago), Boyatzis [7], Schroeder [49], Dulwicks [20], Topping [57], Kerry and Goldman [30], Stone [55], Beham et al. [31], Crepe and Mansfeld [15], Owens et al. [38], Abol Alaei and Ghaffari [1], Pourabedi et al. [47, 42, 43],
9	Empowerment With The Goal Of Strengthening Individual Capability	Weiss Newsky [58], Boyatzis [7], Delwicks [20]
10	Performance Appraisal	(University Of Chicago)
11	Constant/Continuous Review & Planning For The Future	Martin [32], Spanlow [52], Nourshahi [36]
12	Scientific & Structural Implementation Of Performance Appraisal	Boyatzis [8], Pedler [40], Delwicks [20], Abol Alaei and Ghaffari [1], (Social Security Organization, 2006)
13	Features/Specifics Of The Evaluation Committee	Smith et al. [50], Burgwine [9]
14	Characteristics/Features Of Evaluation Conditions	(University Of Florida), (University of Chicago), Nourshahi [36], Gay [22], Beham et al. [31], Crepe and Mansfeld [15], Zapiatis [59], Pourabedi et al. [47, 42, 43]
15	Multidimensionality Of Specialties; Members Of Succession Committee	Martin [32], Weiss Newsky [58], (University of Florida), (University of Chicago)
16	Stability Of Performance Appraisal Indicators	Gonzalez [24], (University Of Florida)
17	Training & Development Of Human Resources	Deleuze [16], Spencer & Spencer [53]
18	Training With The Aim Of Creating Specialized & Technical Personnel	Weiss Newski [5], Nourshahi [36], Chitsaz et al. [11], Chitman and Chaivars [10], Beham et al. [31], Nasehifar et al. [35],
19	Coordination Between Training Guru & Succession Management	Weiss Newsky [58], (University of Frostberg, Maryland), (University of Chicago), (University of Florida), Bowman [6], Nourshahi [36], Toping [56], Abraham et al. [4], Cochran [12]
20	Continuous/Perpetual Staff Training & Learning	Ponder [41], (I), Nourshahi [36], Pedler [40], Dulwicks [20], Topping [57], Kerry and Goldman [30], Beham et al. [31], Crepe and Mansfeld [15], Zenger and Folken [29], Pourabedi et al. [47, 42, 43]
21	Combining Theoretical & Practical Training	Saatchi and Azizpour [**?**], Boyatzis [8], Pedler [40], Spencer and Spencer [53], Kerry and Goldman [30], Beham et al., [31], (Social Security Organization, 2006)
22	Determining The Training Path/Direction Of Employees	Boyatzis [8], Deleuze [16], Kerry and Goldman [30]

Research questionnaire

In this research, a questionnaire and a semi-structured interview were prepared with the support of the research literature and in line with the objectives and questions of the research.
The research questionnaire includes the following sections.

1) The first part contains a letter that in addition to the research title also delineates the data collection objective.
2) The second part includes demographic information such as age, gender, education and history of activity. This section was designed as multiple choice/option in order to be enable enhanced analysis.
3) The third part of the questionnaire was designed to assess the dimensions of identifying the components and indicators of succession.

Data analysis method

The data/information collected are raw sources that must be analyzed and described with appropriate tools toward transferring their practical information load. In such a study, the most appropriate means of analyzing the obtained data are statistical tests. In this chapter, we shall first assess the demographic data of the research utilizing tables and pie charts and next introduce statistical hypotheses and reveal the findings of their processing using SPSS and LISREL software and then we shall arrive at a conclusion.

Nonlinear structural equation mode

The traditional linear structural equation model is typically made up of two parts: the measurement model describing the relationships between the observed and latent variables and the structural model describing the relationships between the latent variables. Given a vector of p observed variables $\boldsymbol{Z}_i$ for the ith individual in a sample of size n and a vector of q latent variables $\boldsymbol{f}_i$, the linear structural equation model system can be written:

$$\boldsymbol{Z}_i = \mu + \Lambda f_i + \varepsilon_i, \tag{1.1}$$

$$\boldsymbol{b}_0 + \boldsymbol{B}_0 f_i = \delta_{0i}, \tag{1.2}$$

where in the measurement model, the matrices $\boldsymbol{\mu}(p \times 1)$ and $\boldsymbol{\Lambda}(p \times q)$ contain fixed or unknown scalars describing the linear relation between the observations $\boldsymbol{Z}_i$ and the common latent factors $\boldsymbol{f}_i$ and $\boldsymbol{\varepsilon}_i$ represents the $(p \times 1)$ vector of random measurement error independent of $\boldsymbol{f}_i$ such that $E(\boldsymbol{\varepsilon}_i) = \boldsymbol{0}$ and $\mathrm{Var}(\boldsymbol{\varepsilon}_i) = \boldsymbol{\Psi}$ with fixed and unknown scalars in $\boldsymbol{\Psi}$; and in the structural model, the matrices $\boldsymbol{b}_0(d \times 1)$ and $\boldsymbol{B}_0(d \times q)$ contain fixed or unknown scalars defining defining d different additive linear simultaneous structural equations relating the factors to one another plus the $(d \times 1)$ vector for random equation error $\boldsymbol{\delta}_{0i}$, where $E(\boldsymbol{\delta}_{0i}) = \boldsymbol{0}$ and $\mathrm{Var}(\boldsymbol{\delta}_{0i}) = \boldsymbol{\Delta}_0$ with fixed and unknown scalars in $\boldsymbol{\Delta}_0$.

The simultaneous linear structural model as written in (1.2) is very general. For many practical research equations which be addressed by simultaneous structural models, it is useful to model specific variables in terms of the rest of the variables, i.e., it is useful to consider some of the latent variables as endogenous and others as exogenous, where endogenous variables are those that are functions of other endogenous and exogenous variables. Let $\boldsymbol{f}_i = (\boldsymbol{\eta'}_i, \boldsymbol{\xi'}_i)$ where $\boldsymbol{\eta}_i$ are the d endogenous latent variables and $\boldsymbol{\xi}_i$ are the $q - d$ exogenous latent variables. Then a commonly used from for the structural model (1.2) becomes:

$$\eta_i = \boldsymbol{b} + \boldsymbol{B}\eta_i + \Gamma\xi_i + \delta_i, \tag{1.3}$$

where it is assumed the equation errors $\boldsymbol{\delta}_i$ have $E(\boldsymbol{\delta}_i) = \boldsymbol{0}$, $\mathrm{Var}(\boldsymbol{\delta}_i) = \boldsymbol{\Delta}$ and are independent of the $\boldsymbol{\xi}_i$ as well as independent of $\boldsymbol{\varepsilon}_i$ in (1.1), and the matrices $\boldsymbol{b}(d \times 1)$, $\boldsymbol{B}(d \times d)$, $\boldsymbol{\gamma}\big(d \times (q - d)\big)$, and $\boldsymbol{\Delta}(d \times d)$ are fixed or unknown scalars. The structural model (1.3) is said to be in **implicit from**, implicit because it has endogenous variables on both sides of the equations, i.e., it is not "solved" for the endogenous variables. It is assumed that the diagonal of $\boldsymbol{B}$ is zero so that no element of η_i is a function of itself. A sufficient condition for solving (1.3) is that $(\boldsymbol{l} - \boldsymbol{B})$ is invertible, then (1.3) can be solved for the endogenous variables and written as

$$\eta_i = \boldsymbol{b}^* + \Gamma^*\xi_i + \delta_i^*, \tag{1.4}$$

where $\boldsymbol{b^*} = (\boldsymbol{l} - \boldsymbol{B})^{-1}\boldsymbol{b}$, $\boldsymbol{\gamma^*} = (\boldsymbol{l} - \boldsymbol{B})^{-1}\boldsymbol{\gamma}$ and $\mathrm{Var}(\boldsymbol{\delta}_i^*) = (\boldsymbol{l} - \boldsymbol{B})^{-1}\boldsymbol{\delta}(\boldsymbol{l} - \boldsymbol{B})^{-1'}$. The structural model (1.4) is said to be in **reduced from** as the $\boldsymbol{\eta}_i$ now appears only on the left-hand side of the equation. It is important to note the assumption that the equation errors $\boldsymbol{\delta}_i$ were additive and independent of the $\boldsymbol{\xi}_i$ in the implicit from (1.3) results in the equation errors $\boldsymbol{\delta}_i^*$ in the reduced from (1.4) also being additive and independent of the $\boldsymbol{\eta}_i$.
Given p, q and d, additional restrictions must be placed on $\boldsymbol{\mu}, \boldsymbol{\Lambda}, \boldsymbol{\Psi}, \boldsymbol{b}_0, \boldsymbol{B}_0$ and $\boldsymbol{\Delta}_0$ in (1.1)-(1.2) in order to make all the unknown parameters identifiable. The assumption that (1.2) can be written in reduced from (1.4) is the typical restriction placed on the structural model.

Additionally, a common restriction placed on the measurement model (1.1) is the errors-in-variables parametrization where q of the observed variables are each fixed to be equal to one of the q different latent variables plus measurement error. For a thorough discussion of identifiability in linear structural equation models see, e.g. Finally, it should be noted that there is no inherent distributional assumptions needed for $\boldsymbol{\varepsilon}_i$, $\boldsymbol{\delta}_{0i}$, nor $\boldsymbol{f}_i$ at this point of model specification although distributional assumption may be added eventually to perform estimation.

A mixture SEMs for a $p \times 1$ random vector $\boldsymbol{y}_i$ is defined as follows:

$$f(y_i) = \sum_{k=1}^{K} \pi_k f_k(y_i|\mu_k, \sigma_k), \quad i = 1, \cdots, n, \tag{1.5}$$

where $\boldsymbol{K}$ is the number of components which can be unknown, $\pi_k' s$ are component probabilities which are nonnegative and sum to 1.0, $f_k(\boldsymbol{y}|\boldsymbol{\mu_k}, \boldsymbol{\Sigma_k})$ is a multivariate normal density function with an unknown mean vector $\boldsymbol{\mu}_k$ and a covariance matrix $\boldsymbol{\Sigma}_k$. Conditional on the kth component, suppose that $\boldsymbol{y}$ satisfies the following measurement model:

$$y = \mu_k + \Lambda_k \omega_k + \varepsilon_k, \tag{1.6}$$

where $\boldsymbol{\mu}_k$ is an $\boldsymbol{p \times 1}$ intercept vector, $\boldsymbol{\gamma}_k$ is a $p \times q$ factor loading matrix, $\boldsymbol{\omega_k}$ is a $q \times \boldsymbol{1}$ random vector of latent variables, and $\boldsymbol{\varepsilon_k}$ is a $p \times \boldsymbol{1}$ random vector of error measurements with distribution $\boldsymbol{N(0, \Psi_k)}$, which is independent of $\boldsymbol{\omega_k}$ and $\boldsymbol{\Psi_k}$ is a diagonal matrix. Let $\boldsymbol{\omega_k}$ be partitioned into $(\eta_n^T, \xi_k^T)^T$, where $\boldsymbol{\eta_k}$ is a $q1 \times 1$ vector, $\boldsymbol{\xi_k}$ is a $q2 \times 1$ vector, and $q1 + q2 = q$. The structural equation is defined as

$$\eta_k = B_k \eta_k + \Gamma_k \xi_k + \delta_k, \tag{1.7}$$

where $\boldsymbol{B_k}$ and $\boldsymbol{\gamma_k}$ are $q1 \times q1$ and $q1 \times q2$ matrices of unknown parameters; and random vectors $\boldsymbol{\xi_k \lambda_k}$ are independently distributed as $N(\boldsymbol{0, \Phi_k})$ and $N(0, \boldsymbol{\Phi_{\lambda k}})$, respectively; and $\boldsymbol{\Phi_k}$ is a diagonal matrix.
We assume that $\boldsymbol{B}_{0k} = (\boldsymbol{l}_{q1} - \boldsymbol{B_k})$ is nonsingular and ($\boldsymbol{l}_{q1}$ is independent of any elements in $\boldsymbol{B_k}$. One specific from of $\boldsymbol{B_k}$ that satisfies this assumption is the lower or upper triangular matrix.
As the mixture model defined in (1.1) is invariant with respect to permutation of labels $k = 1, \ldots, K$, adoption of an unique labeling for identifiability is important. Roeder and Wasserman and Zhu and Lee proposed to impose the ordering $\mu_{1,1} < \ldots < \mu_{k,1}$ for eliminating the label switching (jumping between the various labeling subspace), where $\mu_{k,1}$ is the first element of the mean vector $\boldsymbol{\mu}_k$. This method works fine if $\mu_{1,1}, \ldots, \mu_{K,1}$ are well separated.
However, if $\mu_{1,1}, \ldots, \mu_{K,1}$ are close to each other, it may not be able to eliminate the label switching and may introduce incorrect results. Hence, it is necessary to find a sensible identifiability constraint. In this chapter, the random permutation sampler developed by Frühwirth-Schnatter will be applied for finding the suitable identifiability constraints. See the following sections for more details.
Moreover, for each $k = 1, \ldots, K$, structural parameters in the covariance matrix $\boldsymbol{\Sigma_k}$ corresponding to the model defined by (1.6) and (1.7) are not identified. A common method in structural equation modeling for identifying the model is to fix appropriate elements in $\boldsymbol{A}_k, \boldsymbol{B}_k$ and/or $\boldsymbol{\gamma}_k$ at preassigned values. The positions of the preassigned values of the fixed elements in these matrices of regression coefficients can be chosen on a problem-by-problem basis, as long as each $\boldsymbol{\Sigma}_k$ is identified. In practice, most manifest variables are usually clear indicators of their corresponding latent variables. This give rather clear prior information to specify the zero values to appropriate elements in these parameter matrices. See the illustrative example for a more concrete example. For clear discussion of the proposed method, we let $\boldsymbol{\Pi} = (\Pi_1, \ldots, \Pi_K)$ and $\boldsymbol{\theta}$ be the vector which contains all unknown parameters in the covariance matrices that defines an identified model.

Research findings

From the entire statistical sample, 81.4% of the respondents were male and the rest (19.6%) were female. To a large extent, the noted percentages are in line with the actual number and percentage of male and female employees of various banking system organizational units and the randomness and normality of how the samples are distributed.

In the statistical sample, 59.9% had a bachelor's degree and 14.8% had a master's degree or higher, which demonstrates, to some extent, the selected sample's validity and rationality/logic as far as the ability and knowledge of the respondents.

The age composition was as follows: 26.8% were between 30-40 & 64% were between 40-50. Regarding the more than 10 years of work experience criteria, 91.1% of them had more than a decade's experience, demonstrating that the majority of the statistical sample's were highly experienced and possessed informed judgment concerning organizational issues.

Testing the Hypotheses

In this section, utilizing the structural equation method, we shall examine the research hypotheses.

Conceptual model fit

Structural equations are utilized to test the impact of factors on each other and vis a vis fitting the conceptual model.

Structural equation modeling

Multiple efforts have been made in the last decade to analyze the causal relationship between variables in a coherent manner. Among these methods is performing confirmatory factor analysis, structural equations or multivariate analysis with latent variables. Structural equation modeling is a very general and robust multivariate analysis technique of the multivariate regression family, or to be more precise, the development of a general linear model enabling the researcher to simultaneously test a set of regression equations. Structural equation modeling is a comprehensive statistical approach to test hypotheses vis a vis he relationships between observed and latent variables, also called structural covariance analysis, causal modeling, and LISREL [26].

Structural equation modeling of research tools

In this study, a questionnaire was utilized for data collection. Therefore, the content structure of the research questionnaires was content-validated using confirmatory factor analysis. For confirmatory factor analysis and modeling of structural equations, standard factor load and t-statistic were calculated. In general, the following rule applies:

The strength of the relationship between the hidden and visible variable is indicated by the factor load. The factor load is a value between zero and one. If the factor load is less than 0.3, the relationship is weak and hence ignored. Operating load of between 0.3-0.6 is acceptable and if it is greater than 0.6 is quite desirable. Once the correlation of the variables has been identified, a significance test should be performed. To evaluate the significance of the relationship between variables, t-value/t-test is utilized. Since the significance is checked at the error level of 0.05, if the observed factor loads (calculated by the t-value test) is less than 1.96, the relationship is deemed not significant and will be displayed in red in the LISREL software.

Findings of confirmatory factor analysis of planning & policy variables

Confirmatory factor analysis of planning and policy variables is displayed in Figure 1. The standard factor load of confirmatory factor analysis to measure the strength of the relationship between planning and policy variables (hidden variable) and its visible variables (questionnaire items) in all cases greater than 0.3 has been obtained. Therefore, the operating structure of the questionnaire for planning and policy variables can be confirmed.

Pursuant to calculating the standard operating load, a significance test should be performed. Based on the results observed in Figure 2, factor t is the measurement index of each of the case dimensions at the 5% confidence level greater than 1.96. Therefore, the observed correlations are significant/meaningful.

Findings of confirmatory factor analysis of evaluation variables & receiving feedback from candidates

Confirmatory factor analysis of evaluation variables and receiving feedback from candidates is presented in Figure 3. The standard factor load of confirmatory factor analysis to measure the strength of the relationship between evaluation variables and receiving feedback from candidates (hidden variable) with its visible variables (questionnaire items) in all cases greater than 0.3 was obtained. Therefore, the operating structure of the questionnaire for evaluation variables and receiving feedback from candidates can be confirmed.

After calculating the standard operating load, a significance test should be performed. In line with the findings observed in Figure 4, the t-factor of the measurement indexes of each of the case dimensions at the 5% confidence level is greater than 1.96. Therefore, the observed correlations are significant.

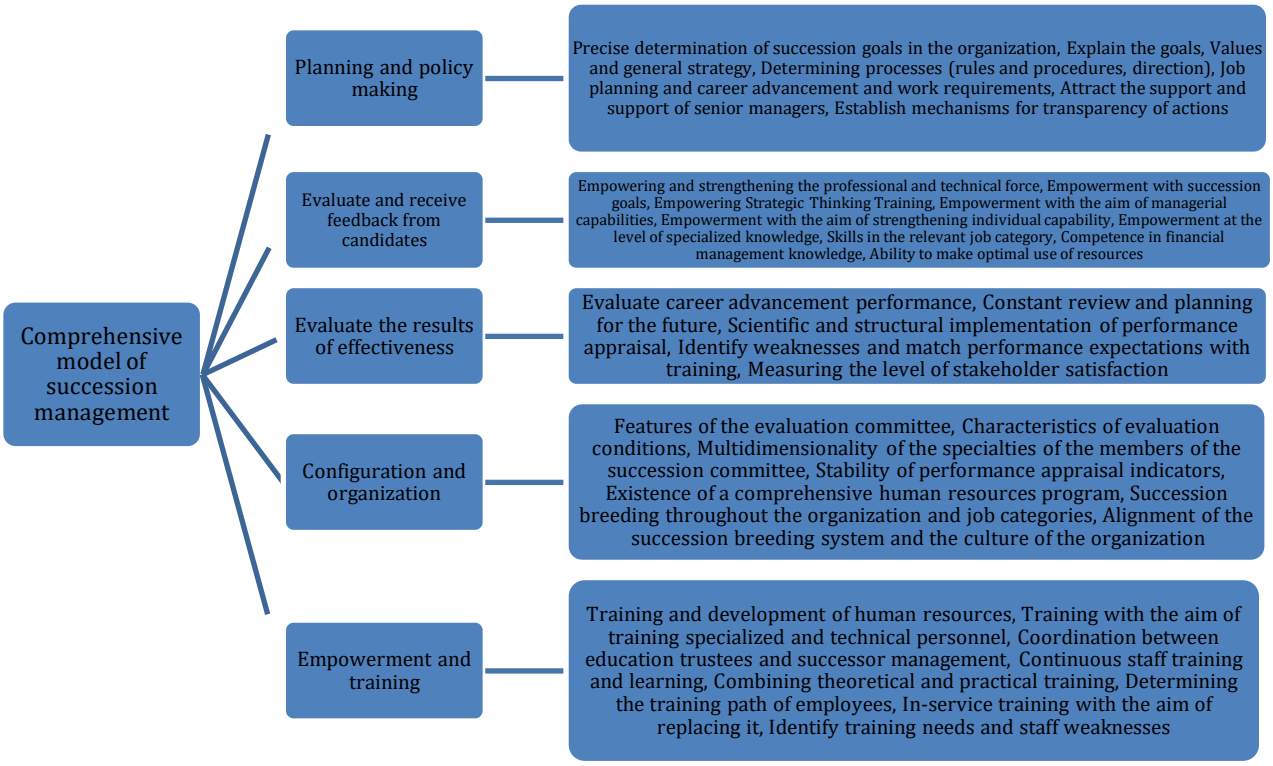

Figure 1: Standard factor load factor analysis of planning & policy variables

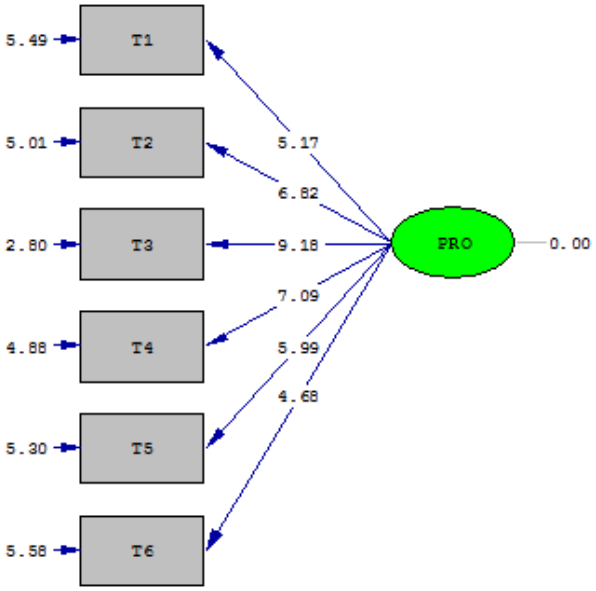

Figure 2: Statistics of significance; factor analysis of planning & policy variables

Findings of confirmatory factor analysis of the variable to assess effectiveness results

Confirmatory factor analysis of the variability review of the effectiveness's findings can be seen in Figure 5. The standard factor load of confirmatory factor analysis to measure the strength of the relationship between the effectiveness score variable (hidden variable) and its observable variables (questionnaire items) in all larger cases confirms the factor structure of the questionnaire and verifies the effectiveness score variable.

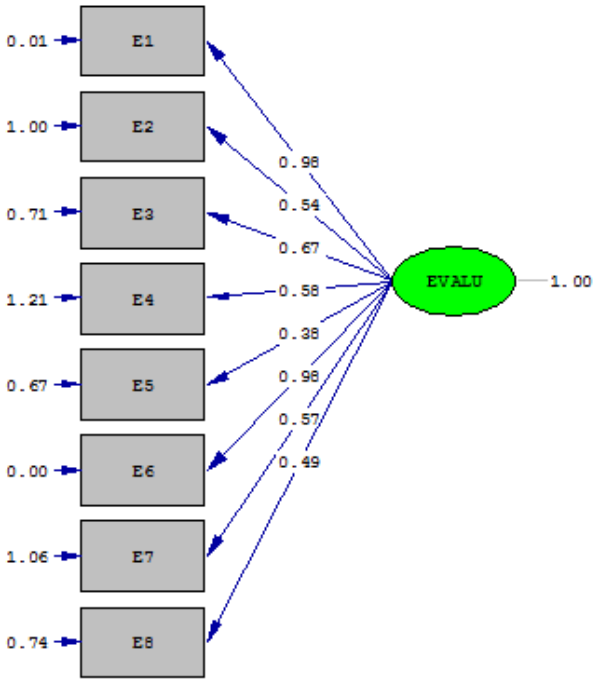

Figure 3: Standard factor analysis of assessment variables & receiving feedback from candidates

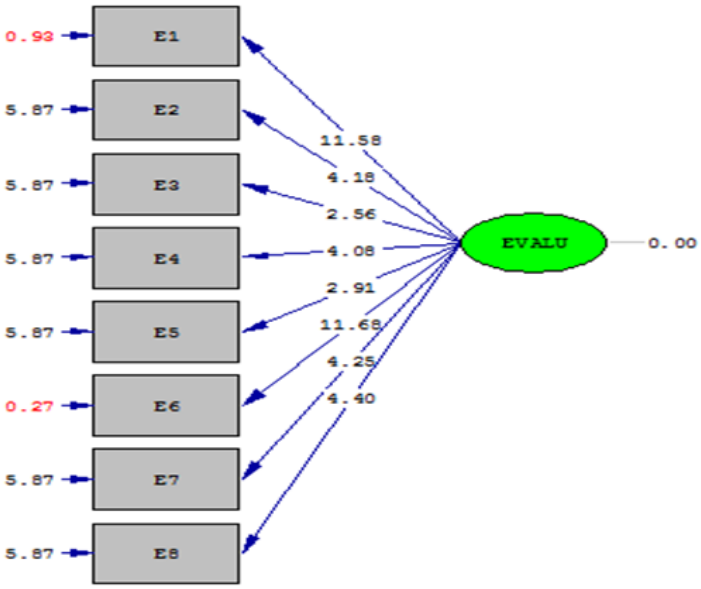

Figure 4: Statistics of factor analysis significance of evaluation variables & receiving feedback from candida

Upon calculating the standard operating load, a significance test should be performed. Based on the results observed in Figure 6, the t-statistic factor of the measurement indexes of each of the dimensions is significant, hence the observed correlations are significant.

Findings of confirmatory factor analysis of configuration & organization variables

Confirmatory factor analysis of configuration and organization variables is shown in Figure 7. Standard factor load confirmatory factor analysis to measure the strength of the relationship between configuration variable and organization

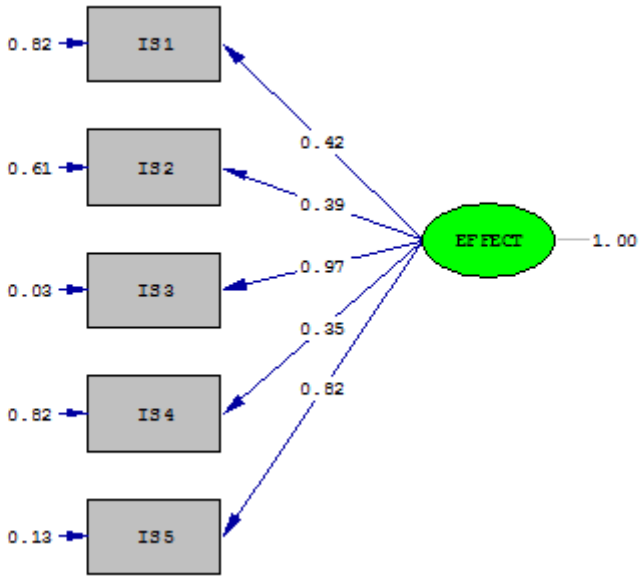

Figure 5: Factor load of the standard variable factor analysis evaluation of effectiveness results

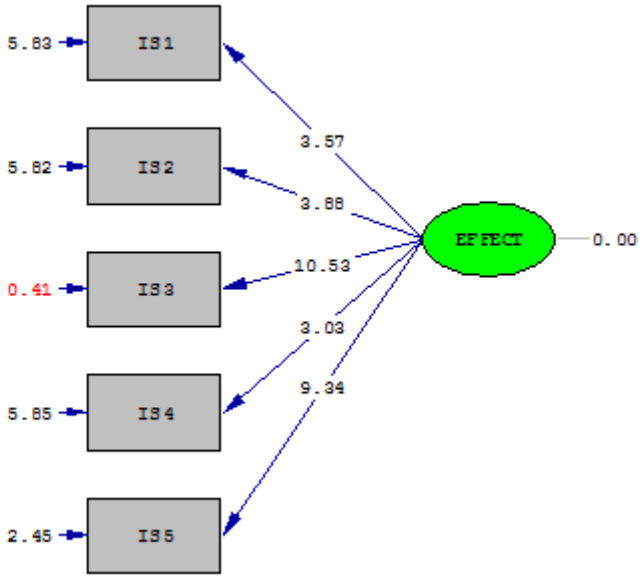

Figure 6: Statistics of significance; variable factor analysis; effectiveness evaluation results

(hidden variable) with its visible variables (questionnaire items) in all cases greater than 0.3 was obtained. Therefore, the operating structure of the questionnaire for the configuration and organizing variables can be verified.

After calculating the standard operating load, a significance test should be performed. Based on the results observed in Figure 8, the factor of t-statistic, the measurement indexes of each of the dimensions are higher than 1.96, consequently, the correlations observed have significance.

Confirmatory factor analysis of empowerment & education variables findings

Confirmatory factor analysis of empowerment and training variables is displayed in Figure 9. The standard factor load of confirmatory factor analysis to measure the strength of the relationship between the empowerment variable and

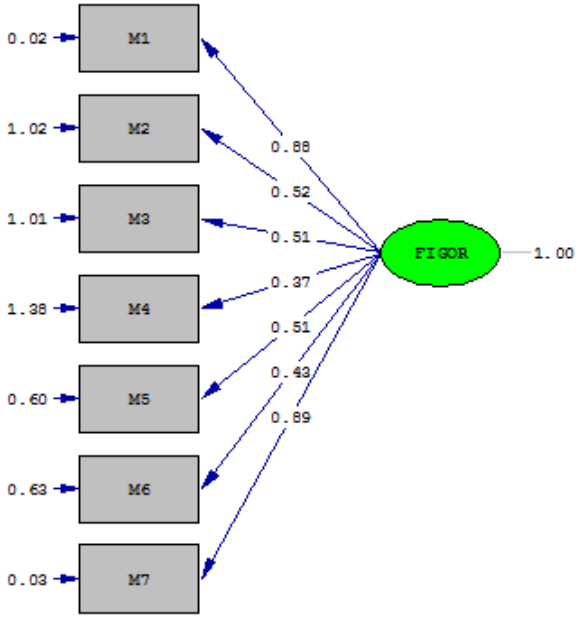

Figure 7: Factor load of the standard factor analysis of configuration & organization variables

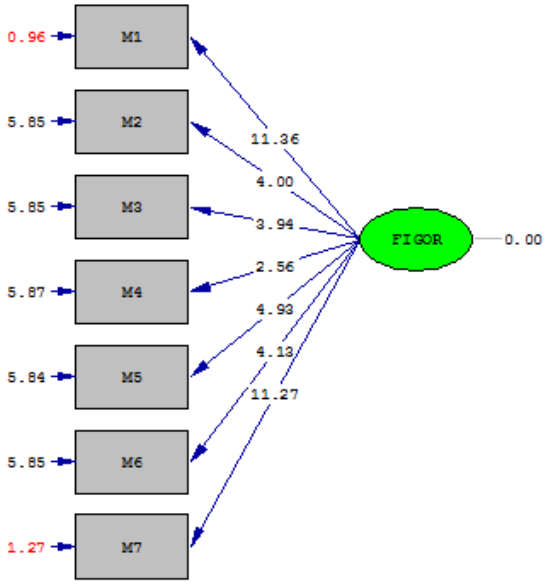

Figure 8: Statistics of significance factor analysis of configuration & organization variables

training (hidden variable) with its visible variables (questionnaire items) in all cases greater than 0.3 has been obtained. Therefore, the factor structure of the questionnaire for the empowerment and training variables is confirmable.

After calculating the standard operating load, a significance test should be performed. Based on the results observed in Figure 10, the t factor load of the measurement indexes of each of the case dimensions are higher than 1.96, and as a result, the observed correlations are significant.

Presenting the final model of succession management model design in the banking system

Figure 11 entails the final design model for succession management in the banking system:

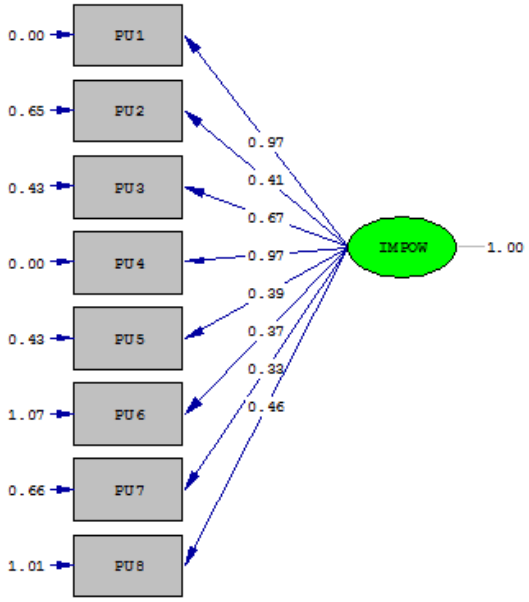

Figure 9: Factor load of the standard factor analysis of empowerment & training variables

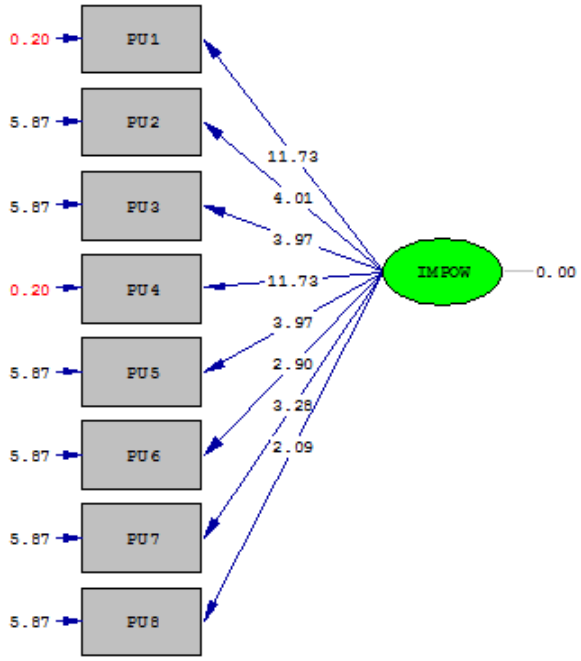

Figure 10: Significance statistics; factor analysis of empowerment & education variables

Goodness of fit index

Finally, a number of Goodness of fit index fit indicators were utilized to fit the structural model of the main research hypothesis. The below table delineates the most crucial fit indicators and furthermore indicates that the research's conceptual model is in a satisfactory position as far as explication and fit [28].

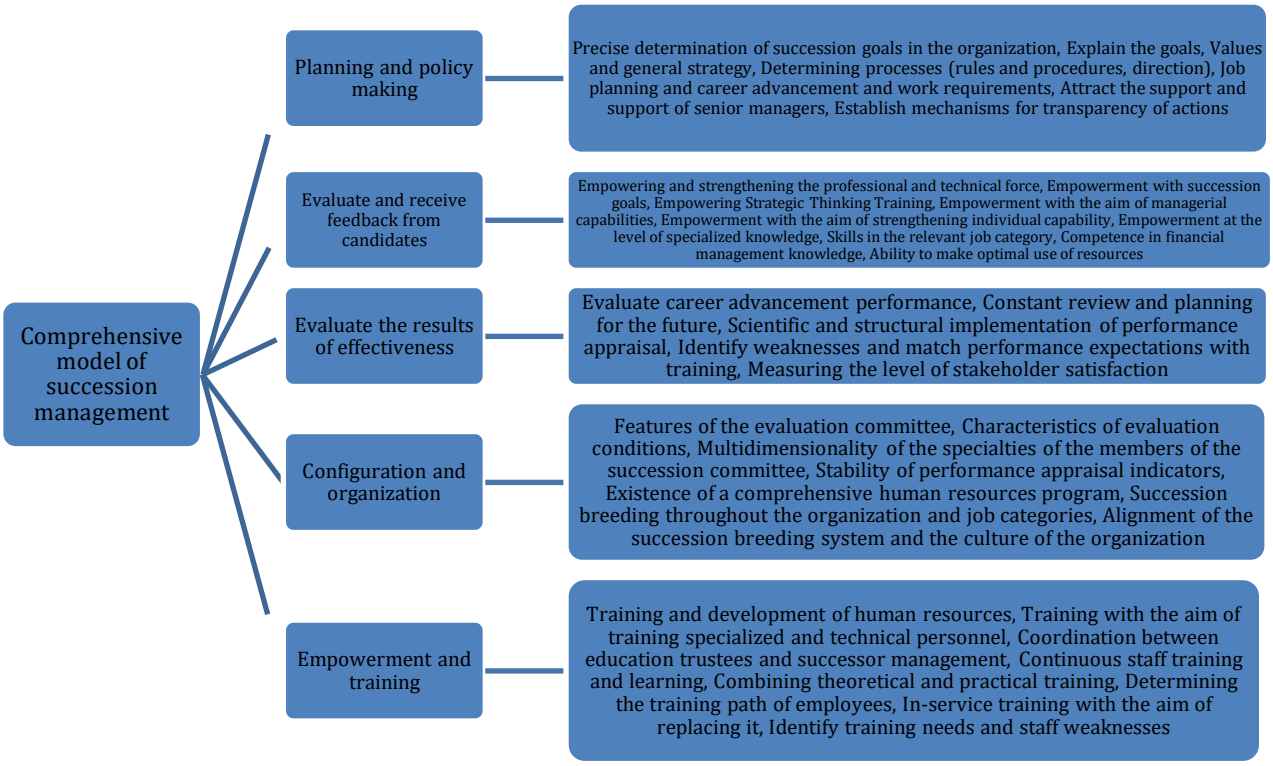

Figure 11: Final succession management model design in the banking system

Table 3: Fit indicators of conceptual model

NFI=0.78
CFI=0.93
IFI=0.90
RMR=0.011
GFI=0.92
RMSEM=0.012
P-Value=0.011
x^2/df=0.82/4=0.205

Summary & conclusion

- Focus and emphasis of officials, planners and decision makers of the country-especially in the field of management and employment systems-to the reality that the concept of succession goes far beyond its organizational function, and the political, social and economic factors impacting society should be among the considerations;
- Establishing succession in banks requires fundamental and paradigmatic changes in traditional attitudes toward development-oriented attitudes in various organizational and managerial contexts and dimensions (including in formulating the type of organizational goals (effectiveness and empowerment instead of efficiency). Competency criteria, evaluation criteria, organizational structure, processes, sources of power in the organization, decision-making methods and models, growth and promotion systems, etc.);
- If the intention is to devise and design a succession model, it is recommended to be undertaken through comparative studies in three distinct areas:
  A) Principles of succession governing society
  B) The primary candidates being considered for succession; and
- The issue of separating political from managerial and professional posts to be pursued more seriously and implementation models should developed by the responsible authorities, such as the country's Vice President for

Management Development & Human Capital, as well as how to implement it in specific time periods (especially to be followed up and assessed after changes in governments/administrations).
- Focus and emphasis of bank officials, especially human resources managers on the fact that succession is a systemic and systematic phenomena as well as a process, and that it relies on multiple different subsystems and requires the simultaneous efficiency of all organizational components, including human resources, plus structural, managerial, legal, cultural, etc.
- During the outset of plans and programs pertinent to succession systems in the banking system, particularized and sufficient resources and budgets should be set aside for it. Banks should assume that such costs are in fact investments and will be offset several times over in the long run to the benefit of the organization (for instance, talent management schemes, succession & HR programs, HR training & development, and the like).

Additional suggestions/recommendations for future researchers:
- It is recommended that future researchers, by completing and modifying the offered indicators, reexamine internal and external organizational factors, dimensions & priorities, and compare them with the present study.
- It is recommended that future researchers further analyze in detail, and explore its sociological and political dimensions in Iran.
- The research model is static and future researchers can transform it into a dynamic model by providing a systematic framework for assessing succession as an output.
- As alluded to in the critiques and criticisms, the juxtaposition of two political-legal issues as one component has impacted the outcome to some extent. It is therefore recommended that future researchers, if they desire, divide the two issues into two components and two hypotheses, and examine them separately.

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