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ANTECEDENTS OF COMPETENCY DEVELOPMENT IN B-SCHOOLS

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Abstract *The purpose of the study is to examine factors that contribute to the competency development of business education students. The aim is to develop a model wherein there are input factors of competency development and then relate them to competency parameters. Study uses 77 statements on Likert scale as input dimensions. Factor analysis is used as a dimension-reduction tool. The outcome measures are three dependent variables such as Knowledge, Attitude and Skill-development of students that are captured through 18 statements on Likert scale. Descriptive statistical analysis, exploratory factor analysis and reliability analysis were also conducted.*

The results indicate the competency development among male and female genders during a 2 year programme from different respondents' perspective. Factor analysis generates seven input factors of competencies. Result also highlights that among different competencies, knowledge competency develops most followed by skills and the least development is in attitude in a 2 years business education.

The results may be helpful for educational institutions to understand how stakeholders rate the B-school's role in competency development. Thus, the findings can be used as a guide for decision-makers to improve overall input to achieve desirable competencies among students.

Keywords: *Competency Development, B-Schools, Factor Analysis, KAS Model*

Introduction

In a knowledge-based economy, every organisation relies on its competent employees as the main resource of advantage in the market. In today's scenario, success of any business is directly correlated with its workforce competency, and on their proper evaluation and development on a regular basis to meet the global competition. Organisations have always been proactively concerned about the competence of its employees for economic and business reasons. In this VUCA (Volatility, Uncertainty, Complexity and Ambiguity) world, attainment of competencies has become important and integral component of individual and organisational strategy. With the growth of management education in India in last few decades, it has come under the critics' scanner and a serious debate is going on its quality. Now, management institutions have no choice but to produce competent workforce that is ready for the market. A competent workforce can see through the crisis.

Competency refers to the intellectual, managerial, social and emotional factors necessary for achieving important results in a specific job role in an organisation. People are rewarded for their competencies (Spencer & Spencer, 1993), which in turn are influenced by some personal antecedents (Bartram, 2005).

B-School Education and Competency Development

In Europe, there is a growing awareness of the importance of higher education for the development of a knowledge-based economy (Dunning, 2002; Harvey et al., 2002; O'Connor et al., 2016). Universities across the globe are increasingly required to produce highly skilled graduates who are able to respond to the ever changing and complex needs of the contemporary workplace (Weil, 1999; Sleezer et al., 2004; Possa, 2006; Jane & Helen, 2008). In addition, the rapid expansion of higher education across Europe over the past two decades has resulted in questions being raised about the quality of the graduate labour market and the ability of graduates to meet the needs of employers (Teichler, 2003; Elias and Purcell, 2004). Indeed, serious concerns have been expressed about an increasingly wide 'gap' between the skills and capabilities of graduates, and the requirements and demands of the work environment in an increasingly mobile and globalised society (King, 2003; Yunus and Li, 2005).

Employers' expectation is that these skills and abilities will be developed during a student's higher education process at a university and that they would be equipped with the necessary interpersonal and academic abilities on completion of their studies (Griesel & Parker, 2009; Hinchliffe & Jolly, 2011; Bernstein & Osman, 2012). It appears, however, that higher education may not be able to immediately meet the labour markets' demands as they grapple with the ability to develop the graduate skills required for the growth of the economy (Hesketh, 2000; Mason et al., 2003; Cranmer, 2006; Rae, 2007). While some universities elsewhere are attempting to bridge this divide with programmes such as Community-Based Research (Lichtenstein et al., 2011), Service Learning (Astin & Sax, 1998) and embedding their graduation into course curriculum (Bernstein & Osman, 2012; Chetty, 2012), the focus on this is relatively new within South African universities and has only recently begun to gain attention (Coetzee, 2012; Favish & McMillan, 2009; Favish et al., 2012). In India, change process is lead by institutions as University Grant Commission, National Board of Accreditation, National Assessment and Accreditation Council, AICTE, etc.

Importance of Study on Competency Development

- Competencies are abilities, behaviours, knowledge and skills that impact the success of employees and organisations. Some common competencies are analytical thinking, communication, flexibility, integrity, teamwork, problem solving, work ethic, etc.
- Skilled talent is the premium requirement of today's organisations, regardless of industry. Competencies have long been used as a framework to help focus employees' behaviour on things that matter most to an organisation and help drive success. In the nutshell, competencies describe what a 'great' performance looks like.
- Management graduates are the future leaders; hence, it is imperative to know and develop a set of competencies that enable them to achieve professional success by outstanding work performance. That helps them to deal with future and existing business challenges in their day-to-day operations. Not only in day-to-day operations, it has also helped graduates to understand what kind of competencies are expected from them and a procedure to develop those competencies. That will definitely reduce the problem of skill-gap in management graduates and increase the employability ratios in the country like India.
- For organisation, competencies provide an action-oriented translation of what it looks like to demonstrate the values that are keys to success. High-performance organisations realise that their success depends on how capable their people are. Competency development enables workforce to make better decision, enhances work effectiveness, makes people proactive, provides a clear direction for learning new job skills and ultimately increases the job satisfaction.

McClelland (1973) argued, with the help of statistical evidence, that traditional achievement and intelligence scores alone may not be able to predict job success and the best way is to profile the competencies required to perform a given job more effectively and measure them using a variety of tests. He defined competency as a personal trait or set of habits that leads to more effective or superior job performance; in other words, an ability that adds clear economic value to the efforts of a person on the job. Klemp (1980) defined competency as an underlying characteristic of a person that results in effective and/or superior performance on the job. Boyatzis (1982, 2007) explored and adopted the term competency as an 'underlying characteristic of an individual that is casually (change in one variable cause change in another) related to superior performance in a job'. He identified 19 generic competencies that outstanding managers tend to have, rather must have. Those 19 generic management competencies were clubbed by him into five distinct clusters namely, goal and action management, leadership, human resource management, directing subordinates and focus on others.

Many such definitions of competency have been discussed over the past decade; however, the definition that is most preferred and accepted is as follows: competencies include the collection of success factors necessary for achieving important results in a specific job or work role in a particular organisation. Success factors are combinations of knowledge, skills and abilities (more historically called -KSA's) that are described in terms of specific behaviours, and are demonstrated by superior performers in those jobs or work roles.

Although the meaning and definition of the term competency is still subject to debate, competencies conceptualised are something that people actually do and can be observed (Campbell et al., 1993, p. 40). A competency is the capability of applying or using knowledge, skills, abilities, behaviours and personal characteristics to successfully perform critical work tasks, specific functions or operate in a given role or position. Competencies are thus underlying characteristics of people that indicate ways of behaving or thinking, which generalises across a wide range of situations and endure for long periods of time.

Competency Model

There are six key shapers of competencies, and they exist at different levels of consciousness. These are often depicted as the levels of an iceberg with the waterline representing

the surface of consciousness. Above the surface level are knowledge and skills; these are easier to see and develop than the deeper drivers of performance such as motives; traits that are below the surface.

Table 1: Competencies

Iceberg Level	Definition	Question to Ask Yourself	Sample Actions
Skills	The things a person can do well, e.g., asking deep, probing questions or writing an opinion piece for an on-line discussion.	Do I have the ability? Can I act effectively?	Skill training, courses.
Knowledge	What a person knows about a subject or a situation, e.g., learning theory or knowledge about current local or national school leadership issues.	Do I know enough to act? Am I missing information? Do I understand the situation?	Research, study, observation, asking questions, reading books.
Social Role, Values	How does a person project to others? It reflects a person's values-in-use what they feel?	Do I know the part to play? Do I see this as appropriate? Is this the right thing to do here?	Choosing new roles to play, examining values in the context of the situation.
Self-Image	The way a person sees themselves, e.g., being a learner or an expert, based on their experiences and their perceptions of how they are seen by others.	Do I see myself doing this?	Reordering personal priorities, defining and adopting a new self-image.
Trait	A person's recognisable habitual behaviour, i.e., relatively enduring characteristics of a person's behaviour, either physical, cognitive, or psycho-social, e.g., being a good listener.	Do I have the enduring reliable patterns of behaviour needed to do this?	Organised practice of trait behaviours, establishment of systems to substitute.
Motive	Natural and constant thoughts and preferences in a particular area (i.e., achievement, affiliation and power) that drive, direct and select a person's behaviour	Do I enjoy this? Does it get me energised?	Long-term organised practice of motives, thoughts and behaviours.

Adopted from Hay Group, 2003

Based on literature review, a detailed statement of questions is prepared. Further, reduction method is used to generate factors. A competency framework is suggested in Fig. 1. It is structured into two parts: input variables that contribute to the development of competencies among B-school graduates; second part is the set of competencies, i.e., 'knowledge', 'attitude' and 'skill'.

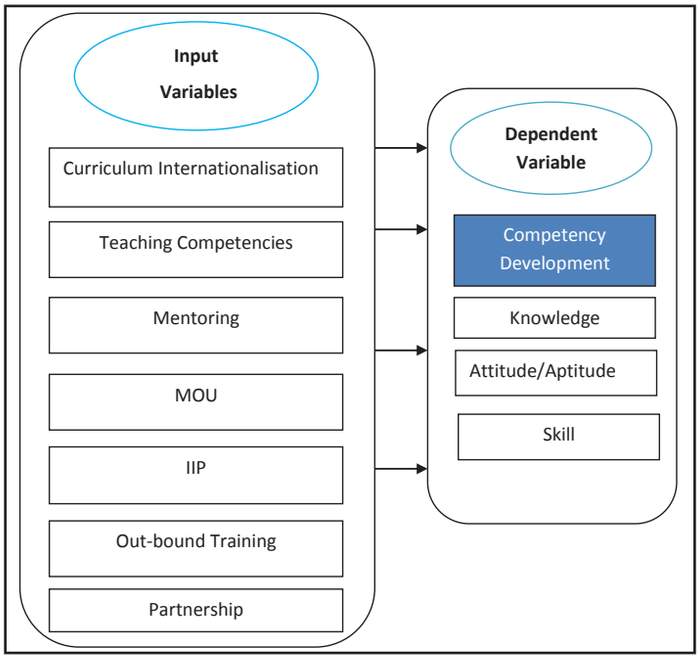

Fig. 1: Competency Framework/Model

Research Methodology

Research Design

The research data were collected by the use of structured questionnaire made up of four sections. The section A contains demographic profile of the respondents such as gender, age, qualification, role and experience, etc. Part B contains 24 questions about three important competencies like knowledge, attitude and skill (KAS). The score is measured on a Likert scale by 22 items each on Before and After score of competency (KAS-dependent variables). The section C had 77 statements as input statement for intermediary variables. The drafted questionnaires were put to test with 75 respondents who were requested to give their opinion on the state of the questions in the area of clarity, omissions and errors. The feedbacks received were on the number of questions involved which translates to more time needed for completion, and clarity of some items. Number of questions could not be reduced due to the research scope but action was taken on the clarity of the questions.

The questions were administered to students from five B-school in Bengaluru. The data were collected using by contacting college authorities and on their recommendation.

In all, 75 valid questionnaires were received.

Research Objective

- To study the competency framework in a B-school from existing literature.
- To generate factors that lead to competency development.
- To suggest a competency framework for a B-school.

Sampling Plan

Data were collected from B-school schools and corporate world in Bengaluru. Random sampling technique was used for sampling responses of 75 were collected.

Statistical Tool

Descriptive statistical analysis, exploratory factor analysis (EFA) and reliability analysis were used for analysis.

Analysis and Result

The initial stage was to enter the data into SPSS and checked for inconsistent and missing data. A series of EFA were performed to purify the scales, evaluate their internal consistency, and assess their discriminant validity.

In order to achieve the study's goals, descriptive analysis, reliability analysis and factor analysis were performed. The results are presented as follows. First, respondents' demographic profile is provided. Next, the results of factor and reliability analyses are interpreted. Next, the results of descriptive analysis of respondents' perceptions on competency are presented. The statistical analysis was conducted on 77 valid questions. The demographic profiles of the respondents are presented in Table 2.

Table 2: Demographic Profile

Items		
Gender	**Frequency**	**Percent**
Male	55	73.3
Female	20	26.7
Total	75	100.0

Age	Frequency	Percent
18–25	30	40.0
26–30	12	16.0
31–35	7	9.3
35–40	16	21.3
>40	10	13.3
Total	75	100.0

Role	Frequency	Percent
Student	27	36.0
Teaching	18	24.0
Industry	29	38.7
Admin	1	1.3
Total	75	100.0

Qualification	Frequency	Percent
Undergraduate	1	1.3
Postgraduate	54	72.0
Professional	3	4.0
Higher	17	22.7
Total	75	100.0

Descriptive Statistics		
	N	**Mean**
Experience	75	7.00

The sample included male (73.3%) and female (26.7%). Most of the respondents were in age category of 18-25 (40%) followed by 35-40 (21.3%). The majority of the responses are taken from Industry (38.7%) followed by students (36%) and Teaching staff (24%). Majority respondents are postgraduates (72%), 22.7% respondents had higher qualification. The mean experience of the respondents was found to be 7 years.

A test of reliability was conducted to measure the reliability of each measurement item to measure their said constructs. Cronbach's alpha values for all variables were very high exceeding or very close to 0.9 cut-off as recommended by Hair et al. (1998). Based on estimated reliability coefficients, it was apparent that KAS scale was a highly reliable instrument. Tables 3 and 4 give the reliability scores for input variables for competency development generated from factor analysis and output variables of KAS framework.

Table 3: Reliability Results for Competency Input

S/N	Dimension	Number of Items	Cronbach Alpha
1.	Curriculum Internation-alisation	11	.966
2.	Teaching Competencies	13	.984
3.	Mentoring	11	.956
4.	MOU	6	.909
5.	IIP	4	.946
6.	Out-bound Training	10	.975
7.	Partnership	12	.956
	Overall Model	67	.989

Table 4: Reliability Results for the Competency Output (KAS)

S/N	Dimension	Number of Items	Cronbach Alpha Before (BF)	Cronbach Alpha After (AF)
1.	Knowledge	6	.879	.976
2.	Attitude	6	.939	.976
3.	Skill	12	.975	.991
	Overall Model	24	.976	.994

The researcher employed confirmatory factor analysis to validate the scales used in the study. In line with recommended approaches, covariance matrix was used as the input and the maximum likelihood was also used as the estimation method (Harrington, 2009). The Kaiser-Meyer-Oklin (KMO) measure verifies the sampling adequacy. The sample size is considered to be adequate for factor analysis given that the KMO for Input Variable score was .855, KAS Output Before was 0.932 and KAS Output After was 0.958. For each factor, the item scores were added together and divided by the number of items that loaded onto that component to yield a factor score that range from 1 to 7.

The results of the descriptive statistical analysis of respondents' perception of KAS development of B-school graduates before and after are shown in Table 2 along with the impact of each score during this period.

Analysis for Input Variables

Input variables are the statements that are used to generate factors for competency development. There were 77 questions used to generate factors. Data were cleaned further to achieve better fit and variable that generated poor communality score were removed. Sixty-seven questions were retained in the final stage to run the factor analysis. The KMO value was close to .9, so model is fit for factor analysis and significant. Factor analysis reduces 67 variables to 7 factors F1 to F7.

Table 5: Factor Analysis

Items (n=67)	Rotated Component Matrix[a] Factors							Communalities
	F1	F2	F3	F4	F5	F6	F7	
v1				.729				.650
v2				.784				.799
v3				.595				.837
v4				.594				.781
v5				.605				.854
v6				.653				.865
v7				.628				.903
v8				.593				.812
v9				.553				.823
v10				.602				.899
v11				.594				.741
v12	.616							.841
v13	.684							.893
v14	.835							.910

Items (n=67)	Rotated Component Matrix[a] Factors							Communalities
	F1	F2	F3	F4	F5	F6	F7	
v15	.753							.872
v16	.745							.910
v17	.818							.887
v18	.836							.883
v19	.862							.912
v20	.849							.914
v21	.873							.912
v22	.760							.857
v23	.800							.860
v24	.765							.896
v25						.557		.768
v26						.564		.856
v27						.449		.775
v28						.564		.802
v29						.516		.863
v30						.602		.828
v31						.506		.770
v32						.581		.827
v33						.668		.821
v34						.539		.829
v35						.663		.729
v36							.533	.847
v37							.474	.696
v38							.584	.836
v39							.675	.845
v40							.603	.842
v41							.753	.735
v42					.675			.783
v43					.618			.745
v44					.507			.839
v45					.586			.880
v46			.531					.844
v47			.529					.848
v48			.593					.873
v49			.595					.929
v50			.776					.911
v51			.666					.878
v52			.710					.893
v53			.732					.845
v54			.799					.923
v55			.816					.862
v56		.634						.754
v57		.750						.777
v58		.670						.809

Items (n=67)	Rotated Component Matrix[a] Factors							Communalities
	F1	F2	F3	F4	F5	F6	F7	
v59		.588						.798
v60		.767						.792
v61		.522						.821
v62		.790						.776
v63		.817						.872
v64		.802						.881
v65		.743						.867
v66		.782						.893
v67		.665						.888
Eigenvalue	40.016	4.415	3.873	2.834	2.027	1.624	1.369	56.158
% of Variance	59.725	6.590	5.780	4.229	3.025	2.423	2.043	83.816
Cronbach's alpha	.984	.956	.975	.966	.946	.956	.909	
Number of items	13	12	10	11	4	11	6	67
Factors	TC	PT	OBT	CI	IIP	MT	MOU	

The seven factors generated are Curriculum Internationalisation, Teaching Competencies, Mentoring, MOU, IIP, Outbound Training and Partnership. Collectively, seven factors explain 83.816% variance in the model. Cronbach's alpha for each factor is more than .9, so reliability of the scale is high.

Analysis of KAS-Before, KAS-After and Impact

The range of KAS items was from 1 (very low perceptions) to 7 (very high perceptions). The mean scores of perceptions ranged from 3.29 to 5.45 as presented in Table 6 below.

Table 6: Mean Score for KAS-Before, KAS-After, Impact

Parameter	Items	KAS-Before	KAS-After	Impact	Impact as Percentage to KAS-Before(%)
Knowledge	Subject knowledge	3.40	5.12	1.72	50.59
	Conceptual thinking	3.49	5.03	1.53	43.89
	Computer literacy	4.09	5.15	1.05	25.73
	Technical expertise	3.29	4.86	1.57	47.72
	Development of customer orientation	3.49	5.05	1.56	44.66
	Organisational awareness (cultural knowledge)	3.35	5.01	1.67	49.80
	Mean	3.52	5.04	1.52	43.73
Attitude	Flexibility in approach	3.87	5.16	1.29	33.45
	Students taking initiative	4.09	5.24	1.15	28.09
	Students exhibit energy and passion	4.43	5.27	0.84	18.98
	Level of Organisational Commitment among Business students	3.95	5.08	1.13	28.72
	Willingness to learn	4.80	5.41	0.61	12.61
	Information seeking ability	4.59	5.36	0.77	16.66
	Mean	4.29	5.25	.96	23.08

Parameter	Items	KAS-Before	KAS-After	Impact	Impact as percentage to KAS-Before(%)
Skill	Teamwork & cooperation is evident	4.48	5.40	0.92	20.54
	Relationship building	4.39	5.44	1.05	24.01
	Interpersonal communication and understanding	4.49	5.39	0.90	20.00
	Influencing skill	3.97	5.31	1.33	33.56
	Leadership	4.19	5.35	1.16	27.71
	Analytical thinking	3.96	5.20	1.24	31.31
	Ability to learn	4.63	5.39	0.77	16.54
	Self-control	4.07	5.31	1.24	30.49
	Self-confidence	4.35	5.37	1.03	23.62
	Written communication	4.01	5.19	1.18	29.30
	Achievement orientation	4.07	5.45	1.38	33.92
	Problem solving	4.13	5.41	1.28	30.97
	Mean	4.23	5.35	1.12	26.83

The data in Table 6 show that lowest score in Knowledge, Attitude and Skill Before were 3.29, 3.87 and 3.96 for Technical expertise, Flexibility in Approach and Analytical Thinking. The highest scores in Knowledge, Attitude and Skill After were measured for Computer literacy, Willingness to learn and Achievement orientation. Highest impact was noted for Subject knowledge (50.59%) in Knowledge section, Flexibility in approach (33.45%) in Attitude section and Achievement orientation (33.92%) jump in Skill section. Overall, highest impact was recorded for Knowledge factor (43.73% jump) followed by Skill factor (26.83%) and least in Attitude factor (23.08%) in 2 years program of business management. All the impacts have been found positive, which clearly indicates development in Knowledge, Attitude and Skill factors.

The results of the reliability analysis showed that Cronbach's alpha coefficients of the extracted factors ranged from .946 to .991. That is well above the minimum value of 0.60 which is considered acceptable as an indication of scale reliability (Hair et al., 2006). Thus, these values suggest good internal consistency of the factors. Finally, Cronbach's alpha value for the overall input variable is .989 and indicates high reliability.

From Fig. 2, relative position of Knowledge, Skill and Attitude is clearly observed that KAS after the business education program is producing a relatively straight line, which indicates all the competencies reaches to a similar level (close to 5.21).

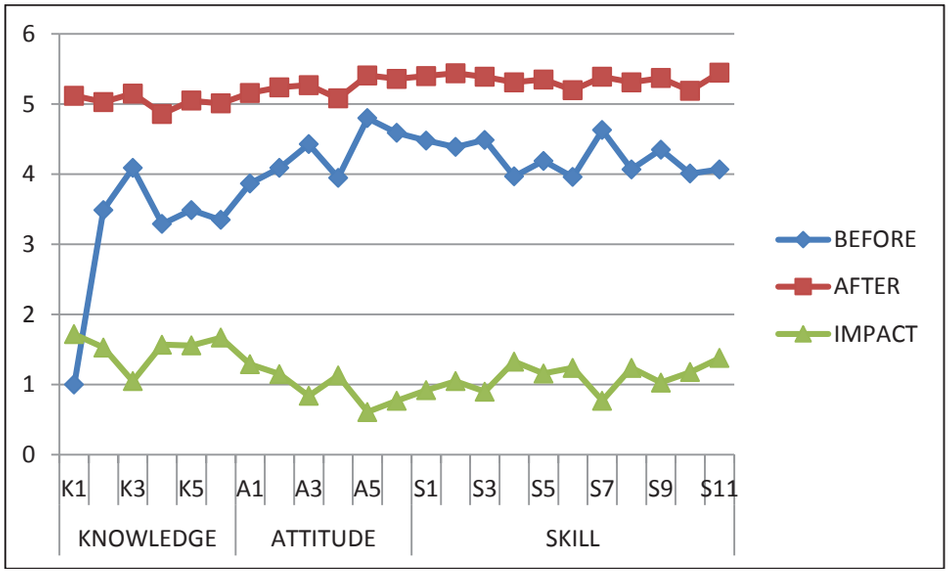

Fig. 2: Competency Development (KAS)

Discussion of Result

Competency development of students in B-school is the key criteria for students and employers both. Parents are concerned for the development of their ward and employers are always worried about the employability of students which has not been any good so far. According to talent-assessment firm Wheebox's survey, MBA graduates' employability is around 40% in 2018. According to Associated Chambers of Commerce and Industry of India (ASSOCHAM) study of 2016, the employability of management graduates was further reported as low as 7% only (93% of the B-school graduates are unemployable). This study will definitely be of use for B-schools to plan an effective framework for the development of competencies, i.e., knowledge, attitude and skill. Factors responsible for competency development are Curriculum Internationalisation, Teaching Competencies, Mentoring, MOU, IIP, Outbound Training and Partnership.

Furthermore, the findings of this study reveal that among the seven dimensions, 'Teaching competencies' has emerged as the most important predictor of competency development followed by industry partnership. Also, it is clear that the maximum development is reported in 'knowledge' dimension and towards the end of the study all the output dimensions (KAS) rate similar.

Limitations and Conclusion

There are several limitations that need to be acknowledged. The data were collected from a small although important population. The questionnaire were distributed to three population segments, i.e., students, academic related faculty and staff and industry person involved directly or indirectly in hiring. Role-wise responses may differ and this should be treated as a generalised response of industry not any specific industry per se. The other emerging dimension to competency in addition to knowledge, attitude and skill is 'habit' formation among students. It is believed that B-schools should strive to create habit for good practices so as to create a better impact. This leads to the development of KASH model. More studies should be conducted in this direction.

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