

# Analysis of Employees' Time Management Behavior Skills and Strategies (TMBSS) in Pakistan

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## Abstract

The most successful organizations and people reveal the secret of success in terms of effective time management. Research studies identify that time management differs from person to person. Most of the research has been conducted in western countries discussing the time management skills. We rarely find study discussing time management in Asian countries. Hence, the main aim of this study was to measure the time management behavior in Pakistan. This questionnaire survey was conducted to this end. Data were collected from 260 respondents from an educational institution and Bank of Pakistan. Factor analysis and descriptive statistics were conducted. The result identifies the emergence of six factors of TOMBS. In addition to the identification of TM strategies used in Pakistan, this study conducted in-depth interviews with the cadre group of 33 persons working in public administration. The time management strategies identified by this study are documentation, goal setting and scheduling.

## Keywords

Time management, Pareto principle, goal setting, Pomodoro, time eaters.

## Introduction

The interest in time management is by no means new. The problem of how to manage time was already discussed in the 1950s and 1960s, and several authors propose methods on how to handle time issues on the job (e.g. Drucker, 1967; Lakein, 1973; Mackenzie, 1972; McCay, 1959). They suggest simple remedies such as writing down work plans on paper (so-called "to-do lists") in order to increase job performance. At the same time, some authors (e.g. Drucker, 1967) recognize that planning tasks and activities do not always lead to the completion of planned work, especially when time pressure is high.

McCay (1959) develops a concept for a time-management training program, which is still being used. The critical elements are: providing insight into time-consuming activities, changing time consumption, and increasing workday efficiency by teaching people how to make a daily plan, how to prioritize tasks, and how to handle unexpected tasks. Many books and articles have been written to convey these and similar ideas to managers, promising them a greater effectiveness while using less time (e.g., Blanchard & Johnson, 1982). Over the years, the focus of time management publications and training courses has shifted from managers as the major target group to a broad audience of working people. The term "time management" is actually misleading. Strictly speaking, time cannot be managed, because it is an in-

accessible factor. Only the way a person deals with time can be influenced. Time management can be viewed as a way of monitoring and controlling time (e.g. Eilam & Aharon, 2003). In this regard, it would be more appropriate to speak about self-management with regard to the performance of multiple tasks within a certain time period. But in the literature, the term self-management has a different meaning. It refers to monitoring and regulating oneself, but without any specific reference to techniques for monitoring time use.

Research studies (e.g. Drucker, 1967; Mackenzie, 1990; McCay, 1959 etc.) introduced different methods to use time effectively to increase performance. The idea that individuals decide how to use their time makes up the core of the time management (Koch & Kleinmnn, 2002). Literature review reveals that a large proportion of research is associated with TM in school or university students. Another proportion of literature focuses on employee time management from the perspectives of methods of time management skills.

The increasing salience of time is reflected in theoretical as well as practical publications. A number of authors discuss the need for better incorporating time in theoretical models and research designs (e.g. Ancona, Goodman, Lawrence & Tushman, 2001; George & Jones, 2000; Wright, 2002). Others focus on the ways in which people in organizations manage their time, and on ways in which these efforts can be improved. This study narrows down the dearth of relevant literature on to the Time management scales. Hence, we find the Macan (1994) study as the most discussed study. She presented a time management model that comprised antecedent, mediating, and outcome variables with respect to three time management behaviors that are setting goals and priorities, mechanics of time management and preference for organization. She concluded that these behaviors would result in perceived control of time, or the feeling of having control over one's time. Later replicated studies were conducted to test her study. Amongst these, three replication studies (i.e., Adams & Jex, 1999; Davis, 2000; Jex & Elacqua, 1999) provided only partial support to Macan's (1994) model. However, Claessens, van Eerde, Rutte and Roe (2004) used a different time management scale to test the mediation model over time.

Therefore, we will stick to the use of the term time management in the present paper. In spite of

all popular attention to managing time, relatively little research has been conducted on the processes involved in using one's time effectively (e.g. by using "prime time" to carry out important tasks) and completing work within deadlines. In 1987, a review was published that addressed the increasing popularity of time management (Richards, 1987). It discussed the principles mentioned by authors like McCay (1959) and concluded that, for instance, setting life goals and keeping time logs were important techniques for managing one's time effectively. Although this article was helpful in understanding the ideas behind the notion of time management, it was not a review of empirical time management studies. In fact, to our knowledge, no reviews of empirical research of time management have been published since the article by Richards (1987). Therefore, the first aim of the present study is to review past empirical studies on time management and to determine the state-of-the-art in this area of research. We will review the way in which researchers have incorporated time management concepts and methods in their research and critically discuss the research designs they used. Our second aim is to identify the time management strategies at workplace.

## **Time management behavior scale – literature review**

Various self report instruments have been designed in order to identify the factors within time management. This study takes into account about 34 studies for identification of time management measurement instrument. These studies (see Table 1) identify that about fifteen studies used TMBS, 7 studies used TSQ, 3 studies used TMQ and other studies, for example Britton and Tesser (1991), used PTP; Burt and Kemp (1994) used Activity planning; Claessens et al. (2004) used Planning scale and Green and Skinner (2005) used key skills questionnaire (see details in Table 1). Hence, from the literature we find that three questionnaires have been most used: the five-factor time structure questionnaire (TSQ: Feather & Bond, 1988); the four or three-factor time management behavior scale (TMBS: Macan, Shahani, Dipboye & Phillips, 1990), and the three or two-factor time management questionnaire (TMQ: Britton & Tesser, 1991).

TMBS contains 33 items. Macan (1994) proposes a time management model that comprises antecedent, mediating, and outcome variables with respect to three time management behaviors

that are: setting goals and priorities, mechanics of time management and preference for organization. She concludes that these behaviors would result in perceived control of time, or the feeling of having control over one's time. Later replicated studies were conducted to test her model. Out of these replication studies, only three of them (i.e., Adams & Jex, 1999; Davis, 2000; Jex & Elacqua, 1999) provide partial support to Macan's (1994) model. However, Claessens et al. (2004) have used a different time management scale to test the mediation model over time. Esters and Castellans (1998) found that the TMBS predicted university student stress.

Similarly, TMQ contains items on attitudes and planning. Three factors accounted for 36 percent of variance: short-range planning; long-range planning, and attitudes. Two factors (short range planning and long term) were retained in subsequent studies (Barling, Kelloway & Cheung, 1996; Trueman & Hartley, 1996). See Table 1 for detail.

## Research methodology

Both quantitative and qualitative methodologies were used. Two phases of the studies were conducted (Phase I & Phase II). In the Phase I, we discussed the Time Management Behavior Scale (TMBS). In order to measure the time management behaviors, we modified the Macan (1994) time management behavior scale (TMBS) using a 5-point Likert-type scale from *seldom true* (1) to *very often true* (5). Later, factor analysis using SPSS was performed in order to reduce the data into influential factors. We sent this questionnaire of 33 items to two experts in the relevant subjects. Upon their consideration and recommendations this study excluded 11 items. The reasons for item exclusion were: (1) two items were revised in questionnaire; (2) other items were not considered related to the TMS in the context of organizational perspective of Pakistan, for example getting clothes ready at night, etc.

**Table 1** literature review of TMBS

Authors	Research method	No. of employees	Scale
Lay & Schouwburg (1930)	survey	65 employees	TMBS
Hall & Hursch (1982)	diary study	4 staff members & Faculty members	
King et al. (1986)	survey, intervention	56 participants	TM scale
Bond & feather(1988)	survey	Three samples: 312, 160 & 211 students	TSQ
Macan et al. (1990)	survey	353 employees	TMBS
Britton & Tesser(1991)	survey	102 sales person, 90 freshman & graduates	TMQ
Koolhaas et al. (1992)	survey	469 personnel officers	PTP'901'
Lang (1992)	survey	96 undergraduate students	TM coping scale
Simons & Galotin (1992)	survey, intervention & diary study	Study 1: 88 students, study 2: 39 students	planning survey
Slaven & Totterdell(1993)	survey, intervention & interviews	34 delegates	
Shahani et al. (1993)	survey	Study 1: 93 students, study 2: 106 students	TMBS, TSQ
Macan (1994)	survey	Study 1: 353 employees, study 2: 341 students	
Burt & Kemp (1994)	experimental, survey	Study 1: 100 students, study 2: 50 students	activity planning TSQ
Orpen (1994)	diary study	96 undergraduate students	TM scale
William et al. (1995)	survey	204 students	TMQ
Trueman & Hartley (1996)	survey	293 students	TMQ
Macan(1996)	survey, intervention	38 employees from social security service agency	TMBS
Barling et al. (1996)	survey	102 salespersons	TMBS
Adam & Jex (1997)	survey	522 employees	TMBS
Vodanovich and Seib (1997)	survey	115 student	TMBS
Mudrack(1997)	survey	701 for TQS & 207 for TMBS	TMBS, TSQ
Kaufman, Scarborough & Lindquist (1999)	survey	112	TMBS, TSQ
Francis-Smythe & Robertson (1999a)	experimental, survey	48 Students	TMBS, TSQ
Adam & Jex (1999)	survey	522 employees	TMBS
Jex & Elacqua (1982)	survey	525 Employees	TSQ
Strongmann & Butt (2000)		Study 1: 101 students, study 2: 217 students	TSQ & diary
Davis (2000)	survey	Women	TMBS
Kelly (2002)	survey	130 Students	TMBS
Van Eerde (2003)	survey	37 trainees & 14 Participants	TSQ & diary
Griffiths(2003)	survey	120 central office employees	TMBS
Classens et al. (2004)	survey, longitudinal survey	70 R&D engineers	planning scale
Green & Skinner (2005)	survey	232 employees	key skills questionnaire
Peeters & Rutte (2005)	survey	123 elementary school teachers	TMBS
Woolfolk & Woolfolk	experimental, survey	81 students	

Source: Authors

Phase II study was based on the identification of time management strategies. For this purpose the data were collected during a workshop conducted for a group of public administrators during November 2014. It was based on discussion and identification of strategies among the cadre of trainees in a public institute. The discussion was to gauge the perception of top managers about time management strategies.

### **Data collection and profile of the respondents**

In this study, the data were collected by two different approaches. First the survey was conducted to collect the data from public universities and a local bank. Then, a qualitative approach, i.e. in-depth interviews were conducted to collect data and information to explore the time management strategies of key informants. We first describe and discuss the quantitative study and discuss its findings in relation to our research question and objective. Then, the description and discussion of the in-depth interviews are presented. The findings are discussed accordingly.

### **Survey**

Data were collected from the employees of two different sectors namely public universities (A), and one local bank (B). A total of 300 questionnaires were distributed randomly in the one public university of each province of Pakistan. About 150 questionnaires were returned. In the sample of the local bank, similarly a total of three hundred questionnaires were distributed in three different branches of the bank of which about 110 questionnaires were returned. Female respondents were very few (i.e., 35%) which is opposite to Macan's (1994) study in which more female respondents participated. Male respondents dominate in Pakistan culture. As a result, the male respondent proportion is almost 65%. All respondents at the sample university were faculty members who are highly educated with Master's or Ph.D. degrees. In the sample banks, about 70% had Master's or MBA degree and 30% hold Bachelor's degree working at lower officer ranks. No one identified any kind of time management training they had received prior to participation in our survey.

### **Time Management Behavior Scale (TMBS)**

This study adapted the Macan et al. (1990) Time Management Behavior Scale. Macan et al. (1990)

used thirty-three time management behavior items using a 5-point Likert-type scale from *seldom true* (1) to *very often true* (5). These items of time management were compiled by Macan et al. (1990). The scale items were intended to measure the extent to which time management activities are used.

We sent this questionnaire to two experts of the universities. Upon their review and comments, this study excluded 11 items. The reason of item exclusion were: (1) two items were revised in questionnaire; (2) other items were not considered related to the TMBS in the context of organizational perspective of Pakistan for example getting clothes ready at night, etc. Hence this study used 22 –items in TMBS.

### **Results and discussions**

Table 2 shows the descriptive statistics and correlation among the variables. The mean values of the items of the TMBS scale range from 3.22 to 4.25 and standard deviation from 1.066 to 1.231.

In addition to results in correlation, Table 2 shows the significant relation with other variables at 0.001 and 0.05 respectively. Detail of each variable and their relation with other variables can be seen in the table 2 below.

Later, Table 3 depicts that Factor analysis using VARIMAX rotation was conducted to understand and uncover relationship among the variables. Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is 0.64.

Table 4 depicts that six significant factors emerge from the analysis, explaining 80.591 percent of the total variance. The variables that have high loadings are grouped together. All twenty two items are taken into consideration since their factor loadings are greater than 0.65. All have Eigen values more than 1. The first factor is composed of six items. All six items in factor one are grouped as Time Management Strategies explaining 32.623 percent variance; the second factor is named as Goal setting and evaluation explaining 14.676 percent variance ; the third factor is named as organization of time management explaining 11.713 percent of variance; the fourth factor contains two items named as Review of Time management activities explaining 10.027 percent of variance; the fifth & sixth factor contain two items related to scheduling of events and logs explaining 6.719 & 6.671 percent of variance. (See Table 4).

**Table 2** Correlation among TMBS variables

	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	4.11	1.23	1																					
2	3.63	1.07		.167**																				
3	3.48	1.08			.105																			
4	4.14	1.19				.167**																		
5	4.13	1.08					.260**																	
6	3.84	1.17						.224**																
7	4.11	1.23							.184**															
8	3.63	1.07								.224**														
9	4.22	1.08									.167**													
10	4.17	1.06										.105												
11	3.9	1.15											.171**											
12	4.21	1.21												.184**										
13	3.52	1.08													.184**									
14	3.49	1.04														.184**								
15	4.22	1.1															.184**							
16	4.17	1.06																.184**						
17	3.95	1.13																	.184**					
18	4.25	1.18																		.184**				
19	3.54	1.08																			.184**			
20	3.55	1.04																				.184**		
21	4.22	1.08																					.184**	
22	4.15	1.081																						.184**

\*\*\*Correlation is significant at 0.001;

\*\*Correlation is Significant at 0.05;

Source: Authors

**Table 3** Eigenvalues of TMBS variables

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.177	32.623	32.623	7.177	32.623	32.623	4.988	22.673	22.673
2	3.229	14.676	47.299	3.229	14.676	47.299	4.329	19.676	42.349
3	2.577	11.713	59.012	2.577	11.713	59.012	3.152	14.33	56.678
4	2.206	10.027	69.038	2.206	10.027	69.038	2.315	10.522	67.201
5	1.32	5.998	75.037	1.32	5.998	75.037	1.478	6.719	73.919
6	1.222	5.554	80.591	1.222	5.554	80.591	1.468	6.671	80.591
7	0.852	3.873	84.463						
8	0.663	3.013	87.477						
9	0.546	2.483	89.96						
10	0.413	1.879	91.839						
11	0.377	1.715	93.554						
12	0.324	1.471	95.026						
13	0.253	1.15	96.176						
14	0.224	1.02	97.196						
15	0.196	0.889	98.085						
16	0.156	0.709	98.794						
17	0.122	0.553	99.347						
18	0.107	0.488	99.835						
19	0.036	0.165	100						
20	4.02E-17	1.83E-16	100						
21	-2.74E-18	-1.23E-17	100						
22	-3.46E-17	-1.57E-16	100						

Extraction Method: Principal Component Analysis.

Source: Authors

**Table 4** Rotated Component Matrix

	Components					
	1	2	3	4	5	6
Completes priority tasks	0.859					
Keeps long-term goals	0.878					
Handles letters & memos	0.777					
Carries appointment book	0.886					
Uses waiting time	0.856					
Practices recordkeeping	0.878					
Increases task efficiency		0.838				
Sets priorities		0.847				
Breaks down tasks		0.847				
Sets short-term goals		0.908				
Evaluate schedule daily		0.908				
Carries notebook			0.827			
Avoids interruptions			0.916			
Schedules time daily			0.881			
Organizes paperwork			0.861			
Review activities				0.959		
Makes list of things to do				0.59		
Writes reminder notes					0.846	
Sets deadlines					0.765	
Schedules events weekly						0.67
Keeps daily log						0.894

Extraction method: Principal Component Analysis.  
Rotation method: Varimax with Kaiser Normalization

Source: Authors

The above results and findings depict that TMBS comprised of twenty two items has sufficient reliability range, which is 0.64. Later, factor analysis identify six factors namely Time Management Strategies, Goal Setting and Evaluation, Organization of Time, Review of Management and Schedule Events and Logs .Hence, in order to meet the first aim of this study, we constructed questionnaire survey of TMBS and find this instrument valid with identification of six major factors of time management behavior skill in Pakistan

### In-depth interviews about TM strategies:

In order to meet the second aim of this study, that is, to identify the major strategies that have been used at the workplace to manage time. This study focused on in-depth interviews.

In-depth interviews were conducted during workshop of three cadre groups of public administration. Based on the literature identification of time management strategies and major time waster, this study will refer to these activities involved in time wastage as time eaters. We presume that employees have prior understanding about concept of time management, literature and importance of time management. For this purpose, the data were collected during workshop conducted for a group of public administrators during November 2014. It was based on the discussion and identification of strategies among the cadre trainees in a public institute. The aim of the discussion was to gauge the perception of top managers about time management strategies and what activities cause major time waste at their workplace.

### Profile of the sample of the study

About 33 respondents were present in the time management workshop. This workshop was conducted by the Government for training of group of public administrators. All were male; no female officer was in this workshop. Age-wise data depicts that most of the officer age lies between 40 and 55. Career wise they were in the middle level or some were in top level of the career waiting for promotion after completion of this training program.

### Respondents' perception about time management strategies

After completing the training session of time management and discussion about time manage-

ment strategies in the light of the relevant literature, we asked them to identify what type of activities eat up the major portion of time and cause procrastination of other important activities and stress. Also we asked what they do to save time in terms of identifying or categorizing in light of strategies mentioned in the literature. For this purpose we adopted FDG (give full term too) method of discussion and asked those to discuss in their three cadres (groups) all of whom consisted of 33 respondents.

The first group which was composed of eleven members who were gathered in the meeting room for discussion .They started discussion among themselves. The crux of their discussion is that after entering at workplace or office when they sit at their desk, turn on the computers or laptops and start checking emails to identify any important messages to answer, and then browse FB messages. In the meantime, there are telephone calls that interrupt and walk-ins of the colleagues and other clients and talks that eat up their major time before they can focus on their work. This continues during work as well. They rate that emails, their answers, FB and Twitter, SMS eat up approximately 30% of their time. Telephone calls and meetings about 20% and walk-ins, sits and talks eat up 40% of their time with almost 10% of their time that they can give on office work without any interruption.

The second group consisted of eleven members. They started discussion. They identified that majority of their time spent on the walk-ins of people, talking, and long sits in the office without any purpose. They concluded that almost 50% of their time is spent on this activity. When they get free and alone in the office they spent time on social media and texting that is almost 20% and rest 30% of their time they spend in the meetings and office work.

Similarly after discussion the third and last sample group's leader presented concluding remark identifying that most of group members spent 30% of their time on the office work, meetings, while telephone calls takes 10% of their time. About 35% of time spent on the sit-in, walk-in etc. While they identified that when checking official mails they spent almost 25% on the social media and texting in sphere time that cause sometimes procrastination of some files signing and routine cases.

Addressing the second question on what they do to manage time, the three groups discussed in light of the literature and knowledge provided

during workshop. Literature review related to time management strategies depict that the researchers (e.g., Adams & Jex, 1999; Zampetakis, Bouranta, & Moustakis, 2010; Van de Meer, Jansen, & Tarenbeek, 2010; Seaward & Seaward, 2011; Lakein, 1973; Morris, 2001; Lay & Schouwenberg, 1993; Geist, 2003; Jex & Elacqua, 1999; Jordan, Cobb & McCully, 1989; Alay & Kocak, 2002; Bliss, 1976; Britton & Tesser, 1991; Burt & Kemp, 1994; Ashkenas & Schaeffer, 1985; Puffer, 1989; Woolfolk & Woolfolk, 1986) have identified the planning, goal setting, scheduling, prioritization of time/time matrix, list to do or documentation and good time management habits (e.g., avoiding procrastination, balance, keeping working table clean, etc.). Some researchers (e.g., Yager, 2008) link Pareto principle to prioritization of time. Hence, based on literature three cadres make list of the following strategies and they added one time management technique of Pomodoro in the light of information provided to them in workshop. Pomodoro is tomato in Italian. It is so named because it uses a small plastic kitchen timer that is shaped like a tomato. In this technique, usually Pomodoro timer (or any timing device) is set to 25 minutes, and after completing or concentrating full 25 minutes on the work, employees may take a short 5 minute break—go for a walk, get a coffee, etc. Pomodoro technique encourages completing 4 Pomodoros, and then they can take a longer break (20–30 minutes) to give brain a rest before beginning the next round of Pomodoros. They later on discussed what they do at their workplace:

1. Prioritization of Time or Pareto principle
2. Goal Setting
3. Scheduling
4. Organizing/Time Matrix
5. List to do and Documentation
6. Good time Management Habits
7. Pomodoro

While discussing the technique, the first group members identified that they have been using documentation, goal setting and scheduling as time management strategy. Almost all members stated they use the scheduling and documentation like diary or note keeping at their workplace. However after attending workshop they will prefer to use good time management habits, Pomodoro and prioritization or Pareto principle. The second and third group almost concluded their discussion with the identification of strategies similar to first group.

After concluding the remarks by each group, the group leaders justified the similarity of opinion among members by reasoning that almost all of them have been using the time management strategies mentioned above but they had not gone through any workshop or due to lack of knowledge about importance of time management and other strategies like Pomodoro, Pareto principles, they were not utilizing time and implementing strategies effectively.

Summing up, major time eaters or wasters are walk-ins of people, talking, long sits in the offices and social media like FB, twitter or SMS. The time management strategies identified by this second phase of the current study are documentation, goal setting and scheduling.

## Conclusion

The concluding remark of this study is: Time is most precious and irreversible among all assets either financial or non-financial.

Hence, to manage time at workplace has become most discussed topic at the workplace in the developed countries. Considering its importance, this study finds that much effort and research has been going on in the European and American Cultures while rare studies have been found in Asian cultures like Pakistan. Hence, this study tested the TMBS and identified six factors, namely, time management strategies, goal setting and evaluation, organization of time, review of time management and scheduling of events and logs. Addressing the second aim of this study, we focused on the practical aspects of time management on what types of strategies are being used at the workplace. For this purpose, in-depth interviews and discussion were conducted with the training cadre groups. They identified that no prior training has been conducted for time management and very few of them focus on managing the time effectively. The major strategies identified in the second stage of the study include documentation, goal setting and scheduling. The major time eaters or wasters are identified as walk-ins of people, talking, long sits in the offices and social media like FB, twitter or SMS.

Later Cadres emphasized the more training needs to enhance time management skills and strategies at the top and middle level of workplace in order to change the work attitude of workers especially in Asian countries like Pakistan. They also emphasized on the cultural change to change their habit of work procrastination to enhance the organizational effectiveness. So, recognizing the

importance of time management by employees at workplace, this study recommends much focus on training and effective utilization of work during work in order to avoid workplace procrastinations. This study recommends government and private sector intervention to provide training about effective utilization of time in the organization by realizing the importance of time. **SM**

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